SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 8.16
Revision Date 14.02.2025
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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : LSMLS Plate 5 (Water Soluble)

Product Number : LSMLS05
Brand : Sigma
REACH No. :

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

Identified uses : Laboratory chemicals, Manufacture of substances
Uses advised against : For R&D use only. Not for pharmaceutical, household or other uses.

1.3 Details of the supplier of the safety data sheet

Company :

1.4 Emergency telephone

Emergency Phone # : +(44)-870-8200418 (CHEMTREC (GB))
+(353)-19014670 (CHEMTREC Ireland)
001-803-017-9114 (CHEMTREC India)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity, (Category 4)	H302: Harmful if swallowed.
Skin corrosion, (Category 1)	H314: Causes severe skin burns and eye damage.
Serious eye damage, (Category 1)	H318: Causes serious eye damage.
Skin sensitization, (Category 1)	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, (Category 2)	H341: Suspected of causing genetic defects.
Carcinogenicity, (Category 1B)	H350: May cause cancer.
Reproductive toxicity, (Category	H360D: May damage the unborn child.

1A)

Specific target organ toxicity - single exposure, (Category 3), Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, (Category 1), Blood	H372: Causes damage to organs through prolonged or repeated exposure.
Long-term (chronic) aquatic hazard, (Category 3)	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word	Danger
Hazard Statements	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360D	May damage the unborn child.
H372	Causes damage to organs (Blood) through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
Precautionary Statements	
P260	Do not breathe dust.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none
	Restricted to professional users.

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word	Danger

Hazard Statements	
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.
H360D	May damage the unborn child.
Precautionary Statements	
P260	Do not breathe dust.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Caution: Physiologically highly active, therapeutically usable substance. The substance must be handled with the care required for hazardous materials.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component		Classification	Concentration
2-amino-3-[4-(4-hydroxyphenoxy)-3,5-diiodophenyl]propanoic acid			
CAS-No.	534-51-0	Aquatic Chronic 3; H412	>= 1 - < 2.5 %
	*		
DIHYDROXYMANDELIC ACID			
CAS-No. EC-No.	775-01-9 212-269-3	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %

	*		
3-Hydroxyanthranilic acid			
CAS-No. EC-No.	548-93-6 208-962-5 *	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Carc. 2; STOT SE 3; H302, H332, H312, H315, H319, H351, H335	>= 1 - < 10 %
3-(2-Hydroxyphenyl)propionic acid			
CAS-No.	495-78-3 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
5-(Dithiolan-3-yl)valeramide			
CAS-No. EC-No.	940-69-2 221-710-9 *	Acute Tox. 4; H302	>= 1 - < 10 %
3,4-Dihydroxybenzoic acid			
CAS-No. EC-No.	99-50-3 202-760-0 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
2-aminophenol			
CAS-No. EC-No. Index-No.	95-55-6 202-431-1 612-033-00-3 *	Acute Tox. 4; Muta. 2; H302, H332, H341	>= 1 - < 10 %
guaiacol			
CAS-No. EC-No. Index-No. Registration number	90-05-1 201-964-7 604-031-00-6 01-2119459332-41-XXXX	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; H302, H315, H319	>= 1 - < 10 %
Hydroxytoluic acid			
CAS-No. EC-No.	83-40-9 201-473-8 *	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; H302, H315, H318, H335	>= 1 - < 3 %
α-(Aminomethyl)benzyl alcohol			
CAS-No. EC-No.	7568-93-6 231-469-1 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
(R)-(-)-mandelic acid			
CAS-No. EC-No.	611-71-2 210-276-6 *	Eye Dam. 1; H318	>= 1 - < 3 %

sodium benzoate			
CAS-No. EC-No. Registration number	532-32-1 208-534-8 01-2119460683-35-XXXX	Eye Irrit. 2; H319	>= 1 - < 10 %
2-Methylmalonic acid			
CAS-No. EC-No.	516-05-2 208-219-5 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
3-(2-aminoethyl)indol-5-ol			
CAS-No. EC-No.	50-67-9 200-058-9 *	Acute Tox. 3; Repr. 2; H301, H361	>= 1 - < 3 %
Hydrocortisone 21-acetate			
CAS-No. EC-No.	50-03-3 200-004-4 *	Repr. 1B; STOT RE 2; H360Df, H373	>= 1 - < 10 %
Methyl vanillate			
CAS-No. EC-No.	3943-74-6 223-525-9 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
Indole-3-pyruvic acid monohydrate			
CAS-No. EC-No.	392-12-1 206-874-1 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
oxalacetic acid			
CAS-No. EC-No. Registration number	328-42-7 206-329-8 01-2120761037-57-XXXX	Eye Irrit. 2; H319	>= 1 - < 10 %
3-Hydroxysalicylic acid			
CAS-No. EC-No.	303-38-8 206-139-5 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
3-Hydroxy-2-oxo-3-phenylpropanoic acid			
CAS-No. EC-No.	156-39-8 205-852-9 *	Skin Irrit. 2; Eye Irrit. 2; H315, H319	>= 1 - < 10 %
2-pyridone			
CAS-No.	142-08-5	Acute Tox. 3; H301	>= 1 - < 10

EC-No.	205-520-3 *		%
Phenol			
CAS-No. EC-No. Index-No. Registration number	108-95-2 203-632-7 604-001-00-2 01-2119471329-32-XXXX	Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Muta. 2; STOT RE 2; Aquatic Chronic 2; H301, H331, H311, H314, H318, H341, H373, H411 Concentration limits: >= 3 %: Skin Corr. 1B, H314; 1 - < 3 %: Skin Irrit. 2, H315; 1 - < 3 %: Eye Irrit. 2, H319;	>= 1 - < 2.5 %
acrylic acid			
CAS-No. EC-No. Index-No.	79-10-7 201-177-9 607-061-00-8 *	Flam. Liq. 3; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 2; H226, H302, H332, H312, H314, H318, H335, H400, H411 Concentration limits: >= 1 %: STOT SE 3, H335;	>= 1 - < 2.5 %
hexanoic acid			
CAS-No. EC-No. Registration number	142-62-1 205-550-7 01-2119978228-24-XXXX	Skin Corr. 1C; Eye Dam. 1; H314, H318 Concentration limits: > 60 %: 1C, ; 3 - 60 %: Eye Dam./Irrit. 1, ; 3 - 60 %: 2, ; 1 - 3 %: Eye Dam./Irrit. 2, ; 1 - 3 %: 2, ;	>= 1 - < 3 %
Disodium ß-glycerophosphate hydrate			
CAS-No. EC-No.	154804-51-0 212-464-3 *	Eye Irrit. 2; H319	>= 1 - < 10 %
3,4-Dihydroxyphenylacetic acid			
CAS-No. EC-No.	102-32-9 203-024-1 *	Skin Irrit. 2; Eye Irrit. 2; H315, H319	>= 1 - < 10 %
3-Amino-4-hydroxybenzoic acid			
CAS-No. EC-No.	1571-72-8 216-390-2	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H302, H315, H319, H335	>= 1 - < 10 %

	*		
2-Amino-1H-pteridin-4-one			
CAS-No. EC-No.	2236-60-4 218-799-1 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
α-Hydroxy-β,β-dimethyl-γ-butyrolactone			
CAS-No. EC-No.	599-04-2 209-963-3 *	Eye Irrit. 2; H319	>= 1 - < 10 %
2-Ketobutyric acid			
CAS-No. EC-No.	600-18-0 209-986-9 *	Skin Corr. 1B; Eye Dam. 1; H314, H318	>= 1 - < 3 %
Ethylmalonic acid			
CAS-No. EC-No.	601-75-2 210-007-2 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
fumaric acid			
CAS-No. EC-No. Index-No. Registration number	110-17-8 203-743-0 607-146-00-X 01-2119485492-31-XXXX	Eye Irrit. 2; H319	>= 1 - < 10 %
Benzylamine			
CAS-No. EC-No. Index-No.	100-46-9 202-854-1 612-047-00-X *	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; H302, H312, H314, H318	>= 1 - < 3 %
pimelic acid			
CAS-No. EC-No.	111-16-0 203-840-8 *	Eye Irrit. 2; STOT SE 3; H319, H335	>= 1 - < 10 %
4-Hydroxy-3-methoxycinnamic acid			
CAS-No. EC-No.	1135-24-6 214-490-0 *	Eye Irrit. 2; H319	>= 1 - < 10 %
Pyrocatechol			
CAS-No. EC-No. Index-No. Registration number	120-80-9 204-427-5 604-016-00-4 01-2119515921-43-XXXX	Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; Muta. 2; Carc. 1B; H301, H311, H315, H318, H317, H341, H350	>= 1 - < 3 %

Cyclopentanone			
CAS-No. EC-No. Index-No.	120-92-3 204-435-9 606-025-00-9 *	Flam. Liq. 3; Skin Irrit. 2; Eye Irrit. 2; H226, H315, H319	>= 1 - < 10 %
4-hydroxybenzaldehyde			
CAS-No. EC-No. Registration number	123-08-0 204-599-1 01-2120784598-32-XXXX	Eye Dam. 1; STOT SE 3; H318, H335	>= 1 - < 3 %
4-hydroxybenzoic acid			
CAS-No. EC-No.	99-96-7 202-804-9 *	Eye Dam. 1; STOT SE 3; H318, H335	>= 1 - < 3 %
Mandelic acid			
CAS-No. EC-No. Registration number	90-64-2 202-007-6 01-2120349224-60-XXXX	Eye Dam. 1; H318	>= 1 - < 3 %
2-methylpropionic acid; isobutyric acid			
CAS-No. EC-No. Index-No.	79-31-2 201-195-7 607-063-00-9 *	Flam. Liq. 3; Acute Tox. 4; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; H226, H302, H311, H314, H318	>= 1 - < 3 %
3-Hydroxybenzyl alcohol			
CAS-No. EC-No.	620-24-6 210-633-6 *	Skin Irrit. 2; Eye Dam. 1; STOT SE 3; H315, H318, H335	>= 1 - < 3 %
Hegzadesil			
CAS-No. EC-No. Registration number	593-81-7 209-810-0 01-2119492299-22-XXXX	Skin Irrit. 2; Eye Irrit. 2; H315, H319	>= 1 - < 10 %
3-methyl-2-butene-1-ol			
CAS-No. EC-No.	556-82-1 209-141-4 *	Flam. Liq. 3; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; STOT SE 3; H226, H302, H332, H314, H318, H335	>= 1 - < 3 %
δ-Valerolactone			
CAS-No. EC-No.	542-28-9 208-807-1	Eye Dam. 1; H318	>= 1 - < 3 %

	*		
Nicotin			
CAS-No. EC-No. Index-No.	54-11-5 200-193-3 614-001-00-4 *	Acute Tox. 1; Acute Tox. 2; Skin Irrit. 2; Eye Dam. 1; Aquatic Chronic 2; H300, H330, H310, H315, H318, H411 Acute oral toxicity: 5 mg/kg Acute inhalation toxicity(dust/mist): 0.19 mg/l Acute dermal toxicity: 70 mg/kg	>= 1 - < 2.5 %
4-(2-Aminoethyl)phenol			
CAS-No. EC-No.	51-67-2 200-115-8 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
Acetoin			
CAS-No. EC-No.	513-86-0 208-174-1 *	Flam. Liq. 3; Eye Dam. 1; H226, H318	>= 1 - < 3 %
3,4-dihydroxycinnamic acid			
CAS-No. EC-No.	331-39-5 206-361-2 *	Carc. 2; H351	>= 1 - < 10 %
3,5-Diiodo-L-tyrosine dihydrate			
CAS-No. EC-No.	18835-59-1 206-092-0 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
glutaric acid			
CAS-No. EC-No.	110-94-1 203-817-2 *	Skin Corr. 1A; Eye Dam. 1; H314, H318	>= 1 - < 3 %
Sorbic acid			
CAS-No. EC-No.	110-44-1 203-768-7 *	Skin Irrit. 2; Eye Irrit. 2; H315, H319	>= 1 - < 10 %
valeric acid			
CAS-No. EC-No. Index-No. Registration number	109-52-4 203-677-2 607-143-00-3 01-2119448010-56-XXXX	Skin Corr. 1B; Eye Dam. 1; Aquatic Chronic 3; H314, H318, H412	>= 1 - < 2.5 %

Adenosine 5'-phosphosulfate sodium salt			
CAS-No.	102029-95-8 *	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335	>= 1 - < 10 %
3-hydroxybenzaldehyde			
CAS-No. EC-No.	100-83-4 202-892-9 *	Skin Irrit. 2; Eye Irrit. 2; H315, H319	>= 1 - < 10 %
4-aminobenzoic acid			
CAS-No. EC-No.	150-13-0 205-753-0 *	Aquatic Chronic 3; H412	>= 1 - < 2.5 %
propionic acid			
CAS-No. EC-No. Index-No. Registration number	79-09-4 201-176-3 607-089-00-0 01-2119486971-24-XXXX	Flam. Liq. 3; Skin Corr. 1B; Eye Dam. 1; STOT SE 3; H226, H314, H318, H335 Concentration limits: >= 25 %: Skin Corr. 1B, H314; 10 - < 25 %: Skin Irrit. 2, H315; 10 - < 25 %: Eye Irrit. 2, H319; >= 10 %: STOT SE 3, H335;	>= 1 - < 3 %
Dihydrocostisone			
CAS-No. EC-No.	50-23-7 200-020-1 *	Repr. 1A; STOT RE 2; H360Df, H373	>= 1 - < 10 %
maleic acid			
CAS-No. EC-No. Index-No. Registration number	110-16-7 203-742-5 607-095-00-3 01-2119488705-25-XXXX	Acute Tox. 4; Skin Corr. 1; Eye Dam. 1; Skin Sens. 1; STOT SE 3; H302, H312, H314, H318, H317, H335 Concentration limits: >= 0.1 %: Skin Sens. 1, H317;	>= 1 - < 3 %
Aniline			
CAS-No. EC-No. Index-No.	62-53-3 200-539-3 612-008-00-7 *	Acute Tox. 3; Eye Dam. 1; Skin Sens. 1; Muta. 2; Carc. 2; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H301, H331, H311, H318, H317, H341, H351, H372, H400, H410 Concentration limits: >= 1 %: STOT RE 1,	>= 1 - < 2.5 %

		H372; 0.2 - < 1 %: STOT RE 2, H373; M-Factor - Aquatic Acute: 1 - Aquatic Chronic: 1	
tryptamine			
CAS-No. EC-No.	61-54-1 200-510-5 *	Acute Tox. 4; Eye Dam. 1; Skin Sens. 1A; H302, H318, H317	>= 1 - < 3 %

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, or the annual tonnage does not require a registration.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
Consult a physician. Show this material safety data sheet to the doctor in attendance.First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.After inhalation: fresh air. Call in physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.After contact with skin: rinse out with polyethylene glycol 400 or a mixture of polyethylene glycol 300/ethanol 2:1 and wash with plenty of water. If neither is available wash with plenty of water. Immediately take off contaminated clothing. Call a physician immediately.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides
Nitrogen oxides (NOx)
Sulfur oxides
Oxides of phosphorus
Hydrogen chloride gas
Hydrogen iodide
Sodium oxides
Calcium oxide
Combustible.
Mixture with combustible ingredients.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Use water spray to cool unopened containers.Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.Work under hood. Do not inhale substance/mixture.

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.
Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.
Storage stability Recommended storage temperature
-20 °C
Storage class
Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
protective clothing

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type P3

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Physical state	solid
b)	Color	No data available
c)	Odor	No data available
d)	Melting point/freezing point	No data available
e)	Initial boiling point and boiling range	No data available
f)	Flammability (solid, gas)	No data available
g)	Upper/lower flammability or explosive limits	No data available
h)	Flash point	No data available

i)	Autoignition temperature	No data available
j)	Decomposition temperature	No data available
k)	pH	No data available
l)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m)	Water solubility	No data available
n)	Partition coefficient: n-octanol/water	No data available
o)	Vapor pressure	No data available
p)	Density	No data available
	Relative density	No data available
q)	Relative vapor density	No data available
r)	Particle characteristics	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
Violent reactions possible with:
Strong oxidizing agents

10.4 Conditions to avoid
Heat, flames and sparks.
no information available

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity
Acute toxicity estimate Oral - 500 mg/kg
(Calculation method)
Acute toxicity estimate Oral - 370.6 mg/kg
(Calculation method)
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute toxicity estimate Inhalation - 4 h - 11 mg/l - vapor(Calculation method)

Acute toxicity estimate Inhalation - 4 h - > 5 mg/l - dust/mist(Calculation method)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Acute toxicity estimate Dermal - 300 mg/kg
(Calculation method)
Acute toxicity estimate Dermal - > 2,000 mg/kg
(Calculation method)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Remarks: Mixture causes serious eye damage.
Risk of blindness!

Respiratory or skin sensitization
Mixture may cause an allergic skin reaction.

Germ cell mutagenicity
Evidence of genetic defects.

Carcinogenicity

Possible carcinogen.

Reproductive toxicity
May harm the unborn child. Positive evidence from human epidemiological studies.

Specific target organ toxicity - single exposure
Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure
Mixture causes damage to organs through prolonged or repeated exposure.
- Blood

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment	The substance/mixture does not contain components considered to have endocrine

disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components

2-amino-3-[4-(4-hydroxyphenoxy)-3,5-diiodophenyl]propanoic acid

Acute toxicity
LD50 Oral - Rat - female - > 2,000 mg/kg
(OECD Test Guideline 423)
Remarks: The value is given in analogy to the following substances: 3,5-Diiodo-L-thyronine
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Eyes - EpiOcular
Result: No eye irritation
(OECD Test Guideline 492)
Remarks: The value is given in analogy to the following substances: 3,5-Diiodo-L-thyronine

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)
Remarks: The value is given in analogy to the following substances: 3,5-Diiodo-L-thyronine

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Remarks: The value is given in analogy to the following substances: 3,5-Diiodo-L-thyronine

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

DIHYDROXYMANDELIC ACID

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-Hydroxyanthranilic acid

Acute toxicity
Acute toxicity estimate Oral - 500.1 mg/kg
(Expert judgment)
Acute toxicity estimate Inhalation - 4 h - 1.5 mg/l - dust/mist
(Expert judgment)
Acute toxicity estimate Dermal - 1,100 mg/kg
(Expert judgment)

Skin corrosion/irritation
Remarks: Causes skin irritation.

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
Suspected of causing cancer.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-(2-Hydroxyphenyl)propionic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

5-(Dithiolan-3-yl)valeramide

Acute toxicity
LD50 Oral - Rat - 1,980 mg/kg
Remarks: (RTECS)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3,4-Dihydroxybenzoic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation.
Remarks: No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

2-aminophenol

Acute toxicity
LD50 Oral - Rat - 951 mg/kg
Remarks: Behavioral:Tremor.
Cyanosis
LC50 Inhalation - 4 h - 1.5 mg/l - dust/mist
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Mild eye irritation

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
In vitro tests showed mutagenic effects

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

guaiacol

Acute toxicity
LD50 Oral - Mouse - male and female - 621 mg/kg
(OECD Test Guideline 401)
Inhalation: No data available
LD50 Dermal - Rabbit - 4,600 mg/kg
Remarks: (ECHA)

Skin corrosion/irritation
Skin - Rabbit
Result: Skin irritation - 4 h
(OECD Test Guideline 404)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization
Sensitisation test: - Guinea pig
Result: negative
Remarks: (ECHA)

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Other cell types
Result: positive
Test Type: sister chromatid exchange assay
Test system: Other cell types
Result: positive
Method: OECD Test Guideline 474
Species: Mouse - male and female - Red blood cells (erythrocytes)
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

Hydroxytoluic acid

Acute toxicity
LD50 Oral - Rat - 445 mg/kg
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Human
Test system: lymphocyte
Remarks: DNA inhibition

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

α-(Aminomethyl)benzyl alcohol

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available
LD50 Intraperitoneal - Mouse - 250 mg/kg

Skin corrosion/irritation
Remarks: Causes skin irritation.

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

(R)-(-)-mandelic acid

Acute toxicity
LD50 Oral - Rat - male and female - 5,000 mg/kg
(OECD Test Guideline 401)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)
Remarks: No skin irritation

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Irreversible effects on the eye - 24 h
(OECD Test Guideline 405)
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

sodium benzoate

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: irritating - 24 h
(OECD Test Guideline 405)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Lungs
Result: negative
Remarks: (ECHA)
Method: OECD Test Guideline 475
Species: Rat - male - Bone marrow
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

2-Methylmalonic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin irritation.

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-(2-aminoethyl)indol-5-ol

Acute toxicity
LD50 Oral - Mouse - 60 mg/kg
Remarks: (RTECS)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
Suspected human reproductive toxicant

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Hydrocortisone 21-acetate

Acute toxicity
LD50 Oral - Rat - 5,000 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity).
Behavioral:Food intake (animal).
Vascular:Other changes.
(RTECS)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
May damage the unborn child.
Suspected of damaging fertility.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
No data available

Methyl vanillate

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available

LD50 Intravenous - Mouse - 180 mg/kg

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Indole-3-pyruvic acid monohydrate

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

oxalacetic acid

Acute toxicity
LD50 Oral - Rat - female - 2,000 - 5,000 mg/kg
(OECD Test Guideline 423)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - In vitro study
Result: Causes serious eye irritation. - 6 h
(OECD Test Guideline 492)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-Hydroxysalicylic acid

Acute toxicity
LD50 Oral - Rabbit - > 3,000 mg/kg
Remarks: (RTECS)
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin irritation.

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-Hydroxy-2-oxo-3-phenylpropanoic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin irritation.

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

2-pyridone

Acute toxicity
LD50 Oral - Rat - 124 mg/kg
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Phenol

Acute toxicity
Acute toxicity estimate Oral - 100.1 mg/kg
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Acute toxicity estimate Inhalation - 4 h - 0.51 mg/l - dust/mist
(Expert judgment)
Symptoms: Irritation, Lung edema
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
LD50 Dermal - Rat - female - 660 mg/kg
(OECD Test Guideline 402)
Acute toxicity estimate Dermal - 660 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation
Skin - In vitro study
Result: Causes burns.
(OECD Test Guideline 431)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Corrosive
(OECD Test Guideline 405)
Remarks: Causes serious eye damage.
Risk of blindness!

Respiratory or skin sensitization
Sensitisation test: - Guinea pig
Result: negative
Remarks: (IUCLID)

Germ cell mutagenicity
Suspected of causing genetic defects.

Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster ovary cells
Result: positive
Test Type: Mutagenicity (mammal cell test): micronucleus.
Test system: Chinese hamster ovary cells
Result: positive

Carcinogenicity
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute inhalation toxicity - Irritation, Lung edema

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.
- Nervous system, Kidney, Liver, Skin
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Aspiration hazard
No data available

acrylic acid

Acute toxicity
LD50 Oral - Rat - male - 1,000 - < 2,000 mg/kg
(OECD Test Guideline 423)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute toxicity estimate Oral - 500 mg/kg
(ATE value derived from LD50/LC50 value)
LC50 Inhalation - Rat - male and female - 4 h - > 5.1 mg/l - vapor
(OECD Test Guideline 403)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Acute toxicity estimate Dermal - 1,100 mg/kg
(Expert judgment)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Skin corrosion/irritation
Skin - Rabbit
Result: Causes severe burns.
(OECD Test Guideline 404)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes burns.
Remarks: (IUCLID)
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
Sensitisation test: - Guinea pig
Result: negative
Remarks: (Lit.)

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Remarks: (National Toxicology Program)
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Result: negative
Test Type: unscheduled DNA synthesis assay
Test system: rat hepatocytes
Result: negative
Method: OECD Test Guideline 475
Species: Rat - male and female - Bone marrow
Result: negative
Species: Mouse - male and female - Intrauterine
Result: negative
Remarks: (ECHA)

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation. - Respiratory Tract
Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

hexanoic acid

Acute toxicity
LD50 Oral - Rat - 3,000 mg/kg
Remarks: (RTECS)
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, After a latency period:, Inhalation may lead to the formation of oedemas in the respiratory tract.
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)
Remarks: The value is given in analogy to the following substances: sebacic acid

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive after 1 to 4 hours of exposure - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Bovine cornea
Result: Corrosive - 10 min
(OECD Test Guideline 437)
Remarks: Causes serious eye damage.
Remarks: Lacrimal irritation due to vapours.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, After a latency period:, Inhalation may lead to the formation of oedemas in the respiratory tract.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Disodium ß-glycerophosphate hydrate

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - reconstructed human epidermis (RhE)
Result: No skin irritation - 15 min
(OECD Test Guideline 439)
Remarks: The value is given in analogy to the following substances: ß-glycerophosphate disodium salt

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.
(ECHA)
The value is given in analogy to the following substances: ß-glycerophosphate disodium salt

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Remarks: The value is given in analogy to the following substances: ß-glycerophosphate disodium salt

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

3,4-Dihydroxyphenylacetic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin irritation.

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-Amino-4-hydroxybenzoic acid

Acute toxicity
Oral: No data available
LD50 Oral - Rat - 798.2 mg/kg
Inhalation: Irritating to respiratory system.

Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

2-Amino-1H-pteridin-4-one

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

α-Hydroxy-β,β-dimethyl-γ-butyrolactone

Acute toxicity
LD50 Oral - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 401)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

2-Ketobutyric acid

Acute toxicity
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Symptoms: burns of mucous membranes
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin burns.

Serious eye damage/eye irritation
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute inhalation toxicity - burns of mucous membranes

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Ethylmalonic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin irritation.
The value is given in analogy to the following substances: 2-Methylmalonic acid

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.
The value is given in analogy to the following substances: 2-Methylmalonic acid

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.
The value is given in analogy to the following substances: 2-Methylmalonic acid

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

fumaric acid

Acute toxicity
LD50 Oral - Rat - male and female - 9,300 mg/kg
(OECD Test Guideline 401)
Symptoms: After uptake of large quantities:, Irritation of mucous membranes, Nausea
LC50 Inhalation - Rat - male and female - 4 h - > 1.306 mg/l - dust/mist
(OECD Test Guideline 403)
Remarks: (highest concentration to be prepared)
Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.
LD50 Dermal - Rabbit - female - 20,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster lung cells
Result: negative
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Remarks: (National Toxicology Program)

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute oral toxicity - After uptake of large quantities:, Irritation of mucous membranes, Nausea
Acute inhalation toxicity - Possible damages:, Irritation symptoms in the respiratory tract.

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

Benzylamine

Acute toxicity
LD50 Oral - Rat - male - 1,127 mg/kg
(OECD Test Guideline 401)
Acute toxicity estimate Oral - 1,127 mg/kg
(ATE value derived from LD50/LC50 value)
LC50 Inhalation - Rat - male and female - 3 h - > 0.65 mg/l - vapor
(OECD Test Guideline 403)
LD50 Dermal - Rat - male and female - 1,350 mg/kg
(OECD Test Guideline 402)
Acute toxicity estimate Dermal - 1,350 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation
Skin - Rabbit
Result: Causes burns.
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Corrosive
(OECD Test Guideline 405)
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Result: negative
Test Type: Micronucleus test
Test system: Chinese hamster lung cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male - Bone marrow
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

pimelic acid

Acute toxicity
LD50 Oral - Rat - 7,000 mg/kg
Remarks: (RTECS)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.
(ECHA)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

4-Hydroxy-3-methoxycinnamic acid

Acute toxicity
LD50 Oral - Rat - 2,500 mg/kg
Remarks: (RTECS)
The value is given in analogy to the following substances: trans-cinnamic acidThe value is given in analogy to the following substances: Cinnamic acid

Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Skin - in vitro test
Result: No skin irritation - 3 - 60 min
(OECD Test Guideline 431)
Remarks: The value is given in analogy to the following substances: trans-cinnamic acid

Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.
(ECHA)
The value is given in analogy to the following substances: trans-cinnamic acid

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Remarks: The value is given in analogy to the following substances: trans-cinnamic acid

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Pyrocatechol

Acute toxicity
LD50 Oral - Rat - male - 300 mg/kg
Remarks: (ECHA)
Inhalation: No data available
LD50 Dermal - Rat - male and female - 600 mg/kg
(OECD Test Guideline 402)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Skin corrosion/irritation
Skin - Rabbit
Result: Irritating to skin. - 24 h
(Draize Test)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage. - 24 - 72 h
(Draize Test)
Remarks: (ECHA)

Respiratory or skin sensitization
Freund's complete adjuvant test - Guinea pig
Result: positive
Remarks: (ECHA)

Germ cell mutagenicity
Suspected of causing genetic defects.
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: positive
Species: Rat - male

Result: positive
Remarks: (ECHA)

Carcinogenicity
Presumed to have carcinogenic potential for humans

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Cyclopentanone

Acute toxicity
LD50 Oral - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male - 4 h - > 19.5 mg/l - vapor
(OECD Test Guideline 403)
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Irritating to skin. - 4 h
(OECD Test Guideline 404)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Irritating to eyes.
(OECD Test Guideline 405)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

4-hydroxybenzaldehyde

Acute toxicity
LD50 Oral - Rat - 3,980 mg/kg
(OECD Test Guideline 401)
Symptoms: Possible damages:, mucosal irritations
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Eyes - Bovine cornea
Result: Causes serious eye damage. - 4 h
(OECD Test Guideline 437)

Respiratory or skin sensitization
Direct Peptide Reactivity Assay (DPRA) - In vitro study
Result: negative
(OECD Test Guideline 442C)

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.
Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

4-hydroxybenzoic acid

Acute toxicity
LD50 Oral - Rat - > 10,000 mg/kg
Remarks: Behavioral:Muscle weakness.
Lungs, Thorax, or Respiration:Dyspnea.
(RTECS)

Symptoms: Possible damages:, mucosal irritations
LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg
(US-EPA)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Risk of serious damage to eyes. - 1 h
(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Micronucleus test
Test system: Chinese hamster cells
Result: negative
Remarks: (ECHA)
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster cells
Result: negative
Remarks: (ECHA)

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Oral, Inhalation - May cause respiratory irritation. - Respiratory system
Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

Mandelic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Eyes - Bovine cornea
Result: Causes serious eye damage. - 4 h

(OECD Test Guideline 437)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

2-methylpropionic acid; isobutyric acid

Acute toxicity
Symptoms: After swallowing: burns in mouth, throat, oesophagus and gastrointestinal tract.
Inhalation: No data available
LD50 Dermal - Rabbit - male - 474 mg/kg
(OECD Test Guideline 402)
Acute toxicity estimate Dermal - 474 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive - 1 h
(OECD Test Guideline 404)
Remarks: Tendency of poor wound-healing after penetration of the substance.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Corrosive - 8 Days
(Draize Test)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Red blood cells (erythrocytes)
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute oral toxicity - After swallowing: burns in mouth, throat, oesophagus and gastrointestinal tract.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-Hydroxybenzyl alcohol

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Hegzadesil

Acute toxicity
LD50 Oral - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 401)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: Irritating to skin. - 20 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Irritating to eyes.
(OECD Test Guideline 405)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

3-methyl-2-butene-1-ol

Acute toxicity
LD50 Oral - Rat - male and female - 1,591 mg/kg
(OECD Test Guideline 401)
Symptoms: Nausea, Vomiting, gastric pain
Oral: absorption
Acute toxicity estimate Inhalation - 4 h - 11.1 mg/l - vapor
(Expert judgment)
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

LD50 Dermal - Rabbit - male and female - > 4,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Remarks: Risk of blindness!

Respiratory or skin sensitization
Human experience
Result: negative
Remarks: (ECHA)

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male - Red blood cells (erythrocytes)
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation.
Acute oral toxicity - Nausea, Vomiting, gastric pain
Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

δ-Valerolactone

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Nicotin

Acute toxicity
Acute toxicity estimate Oral - 5 mg/kg
(Expert judgment)
Acute toxicity estimate Oral - 5 mg/kg
(Acute toxicity estimate according to Regulation (EC) No. 1272/2008)
Acute toxicity estimate Inhalation - 0.19 mg/l - dust/mist
(Expert judgment)
Acute toxicity estimate Inhalation - 0.19 mg/l - dust/mist
(Acute toxicity estimate according to Regulation (EC) No. 1272/2008)
Acute toxicity estimate Dermal - 70 mg/kg
(Expert judgment)
Acute toxicity estimate Dermal - 70 mg/kg
(Acute toxicity estimate according to Regulation (EC) No. 1272/2008)

Skin corrosion/irritation
Skin - Rabbit
Result: Irritating to skin. - 24 h
(OECD Test Guideline 402)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage.
(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Micronucleus test
Test system: human lymphoblastoid cells
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Result: negative
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
Possible risk of congenital malformation in the fetus.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

4-(2-Aminoethyl)phenol

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Laboratory experiments have shown mutagenic effects.
Species: Rat
Remarks: Cytogenetic analysis
Species: Mouse
Remarks: Micronucleus test

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Acetoin

Acute toxicity
LD50 Oral - Rat - female - > 2,000 mg/kg
(OECD Test Guideline 423)
Inhalation: No data available
LD50 Dermal - Rabbit - > 5,000 mg/kg

Skin corrosion/irritation
Skin - reconstructed human epidermis (RhE)
Result: No skin irritation

(OECD Test Guideline 439)

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
Direct Peptide Reactivity Assay (DPRA)
Result: Not a skin sensitizer.
(OECD Test Guideline 442C)

Germ cell mutagenicity
Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3,4-dihydroxycinnamic acid

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
Suspected of causing cancer.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3,5-Diiodo-L-tyrosine dihydrate

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

glutaric acid

Acute toxicity
LD50 Oral - Mouse - 6,000 mg/kg
Remarks: (RTECS)
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Symptoms: Possible damages:, mucosal irritations
Dermal: No data available

Skin corrosion/irritation
Skin - reconstructed human epidermis (RhE)
Result: Corrosive
(OECD Test Guideline 431)

Serious eye damage/eye irritation
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Sorbic acid

Acute toxicity
LD50 Oral - Rat - male and female - 10,500 mg/kg
Remarks: (ECHA)
Inhalation: No data available
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Remarks: Causes skin irritation.
(ECHA)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Eye irritation - 24 h
(OECD Test Guideline 405)

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: negative
(Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity
Test Type: unscheduled DNA synthesis assay
Test system: mammalian cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrow
Result: negative
Method: US-EPA
Species: Mouse - male and female - Bone marrow
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

valeric acid

Acute toxicity
LD50 Oral - Rat - male and female - 4,600 mg/kg
(OECD Test Guideline 401)
Inhalation: No data available
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Causes burns.
(OECD Test Guideline 404)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Corrosive
Remarks: (ECHA)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Adenosine 5'-phosphosulfate sodium salt

Acute toxicity
Oral: No data available
Inhalation: Irritating to respiratory system.
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

3-hydroxybenzaldehyde

Acute toxicity
Symptoms: Possible damages:, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Symptoms: Possible damages:, mucosal irritations
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute oral toxicity - Possible damages:, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

4-aminobenzoic acid

Acute toxicity
LD50 Oral - Rat - male and female - >= 5,000 mg/kg
(OECD Test Guideline 401)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Result: positive

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

propionic acid

Acute toxicity
LD50 Oral - Rat - male and female - 3,455.1 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male and female - 1 h - > 19.7 mg/l - vapor
(OECD Test Guideline 403)
LD50 Dermal - Rat - female - 3,235 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive
Remarks: (ECHA)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage. - 24 h
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: sister chromatid exchange assay
Test system: Chinese hamster lung cells
Result: negative
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 474
Species: Chinese hamster - male and female - Bone marrow
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation. - Respiratory Tract

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

Dihydrocostisone

Acute toxicity
LD50 Oral - Rat - 5,000 mg/kg
Remarks: (RTECS)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
In vivo tests did not show mutagenic effects
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrow
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
May damage the unborn child. Positive evidence from human epidemiological studies.
Suspected of damaging fertility.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.
- Adrenal gland, Bone marrow

Aspiration hazard
No data available

maleic acid

Acute toxicity
LD50 Oral - Rat - male and female - 1,090 mg/kg
(OECD Test Guideline 401)
Remarks: The value is given in analogy to the following substances: maleic anhydride
Symptoms: Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Acute toxicity estimate Oral - 1,090 mg/kg
(ATE value derived from LD50/LC50 value)
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Lung edema, Symptoms may be delayed.
Acute toxicity estimate Dermal - 1,100 mg/kg
(Expert judgment)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage.
(OECD Test Guideline 405)

Respiratory or skin sensitization
Maximization Test - Guinea pig

Result: positive
(OECD Test Guideline 406)
Local lymph node assay (LLNA) - Mouse
Result: positive
(OECD Test Guideline 429)
(Regulation (EC) No 1272/2008, Annex VI)

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation. - Respiratory system
Acute oral toxicity - Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Lung edema, Symptoms may be delayed.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Aniline

Acute toxicity
LD50 Oral - Rat - 250 mg/kg
Remarks: (RTECS)
LC50 Inhalation - Rat - 4 h - 3.3 mg/l - vapor
Remarks: (Lit.)
(Regulation (EC) No 1272/2008, Annex VI)
LC50 Inhalation - Rat - 4 h - 3.3 mg/l - vapor
Remarks: (Lit.)
(Regulation (EC) No 1272/2008, Annex VI)
LD50 Dermal - Rabbit - 840 mg/kg
Remarks: (Lit.)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation
Remarks: (Lit.)

Serious eye damage/eye irritation
Remarks: Causes serious eye damage.
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization
May cause allergic skin reaction. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Germ cell mutagenicity
Suspected of causing genetic defects.

Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: positive
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells
Result: positive
Test Type: unscheduled DNA synthesis assay
Test system: rat hepatocytes
Result: negative
Remarks: (ECHA)
Method: OECD Test Guideline 474
Species: Rat - male - Bone marrow
Result: positive
Method: OECD Test Guideline 475
Species: Mouse - male and female - Bone marrow
Result: positive
Method: OECD Test Guideline 475
Species: Rat - male - Bone marrow
Result: positive
Method: OECD Test Guideline 478
Species: Rat - male
Result: negative

Carcinogenicity
Suspected of causing cancer.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
Causes damage to organs through prolonged or repeated exposure.
- Blood
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Aspiration hazard
No data available

tryptamine

Acute toxicity
LD50 Oral - Rat - female - 300 - 2,000 mg/kg
(OECD Test Guideline 423)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - EPISKIN Human Skin Model Test
Result: No skin irritation

(OECD Test Guideline 439)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Irreversible effects on the eye
(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: Causes sensitization.
(OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Toxic to aquatic life.

Components

2-amino-3-[4-(4-hydroxyphenoxy)-3,5-diiodophenyl]propanoic acid

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 24.02 mg/l - 48 h (OECD Test Guideline 202) Remarks: The value is given in analogy to the following substances: 3,5-Diiodo-L-thyronine
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 20.89 mg/l - 72 h (OECD Test Guideline 201) Remarks: The value is given in analogy to the following substances: 3,5-Diiodo-L-thyronine

DIHYDROXYMANDELIC ACID

No data available

3-Hydroxyanthranilic acid

No data available

3-(2-Hydroxyphenyl)propionic acid
No data available

5-(Dithiolan-3-yl)valeramide

No data available

3,4-Dihydroxybenzoic acid
No data available

2-aminophenol

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - 0.1 mg/l
Toxicity to daphnia and other aquatic invertebrates	EC0 - Daphnia magna (Water flea) - 1 mg/l
	EC50 - Daphnia magna (Water flea) - 35 mg/l - 24 h

guaiacol

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 25.9 mg/l - 48 h Remarks: (ECOTOX Database)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata - > 100 mg/l - 72 h (OECD Test Guideline 201)

Hydroxytoluic acid
No data available

α-(Aminomethyl)benzyl alcohol
No data available

(R)-(-)-mandelic acid
No data available

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

sodium benzoate

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 484 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	static test LC50 - Daphnia magna (Water flea) - > 100 mg/l - 96 h Remarks: (ECHA)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to fish(Chronic toxicity)	semi-static test LC50 - Danio rerio (zebra fish) - 1,400 - 1,500 mg/l - 24 h Remarks: (ECHA)

2-Methylmalonic acid

No data available

3-(2-aminoethyl)indol-5-ol
No data available

Hydrocortisone 21-acetate

Toxicity to bacteria

Methyl vanillate
No data available

Indole-3-pyruvic acid monohydrate
No data available

oxalacetic acid

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 31.19 mg/l - 72 h (OECD Test Guideline 201)
	static test NOEC - Pseudokirchneriella subcapitata (green algae) - 3.28 mg/l - 72 h (OECD Test Guideline 201)

3-Hydroxysalicylic acid

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 447 mg/l - 48 h Remarks: (ECOTOX Database)

3-Hydroxy-2-oxo-3-phenylpropanoic acid

No data available

2-pyridone
No data available

Phenol

Toxicity to fish	flow-through test LC50 - Onchorhynchus clarki - 8.9 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Ceriodaphnia dubia (water flea) - 3.1 mg/l - 48 h (US-EPA)
Toxicity to algae	static test EC50 - Pseudokirchneriella subcapitata (algae) - 61.1 mg/l - 96 h (US-EPA)
Toxicity to bacteria	static test IC50 - microorganisms - 21 mg/l - 24 h Remarks: (ECHA)
Toxicity to fish(Chronic toxicity)	semi-static test NOEC - Fish - 0.077 mg/l - 60 d Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 0.16 mg/l - 16 d Remarks: (ECHA)

acrylic acid

Toxicity to fish	flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 27 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	flow-through test EC50 - Daphnia magna (Water flea) - 95 mg/l - 48 h (US-EPA)
Toxicity to algae	IC50 - Desmodesmus subspicatus (green algae) - 0.13 mg/l - 72 h

	(Regulation (EC) No. 440/2008, Annex, C.3) Remarks: (IUCLID)
	EC10 - Desmodesmus subspicatus (green algae) - 0.03 mg/l - 72 h (Regulation (EC) No. 440/2008, Annex, C.3) Remarks: (ECHA)
Toxicity to bacteria	static test NOEC - activated sludge - 100 mg/l - 30 min (ISO 8192)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Oryzias latipes - >= 10.1 mg/l - 45 d (OECD Test Guideline 210)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	flow-through test NOEC - Daphnia magna (Water flea) - 3.8 mg/l - 21 d (US-EPA)

hexanoic acid

Toxicity to fish	static test LC50 - Pimephales promelas (fathead minnow) - 88 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - 72 mg/l - 48 h (OECD Test Guideline 202) Remarks: The value is given in analogy to the following substances: heptanoic acid; oenanthic acid
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata - 56.4 mg/l - 72 h (OECD Test Guideline 201) Remarks: The value is given in analogy to the following substances: heptanoic acid; oenanthic acid
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 17.9 mg/l - 21 d (OECD Test Guideline 211) Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: heptanoic acid; oenanthic acid

Disodium ß-glycerophosphate hydrate

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202) Remarks: The value is given in analogy to the following substances: ß-glycerophosphate disodium salt

Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201) Remarks: The value is given in analogy to the following substances: ß-glycerophosphate disodium salt

3,4-Dihydroxyphenylacetic acid

No data available

3-Amino-4-hydroxybenzoic acid
No data available

2-Amino-1H-pteridin-4-one
No data available

α-Hydroxy-β,β-dimethyl-γ-butyrolactone

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202) Remarks: No toxicity at the limit of solubility.
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 63 mg/l - 72 h (OECD Test Guideline 201)

2-Ketobutyric acid

No data available

Ethylmalonic acid

No data available

fumaric acid

Toxicity to fish	semi-static test LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata - > 100 mg/l - 72 h (OECD Test Guideline 201)
	static test NOEC - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - > 300 mg/l - 3 h (OECD Test Guideline 209)

Benzylamine

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - > 100 mg/l -

	96 h (DIN 38412 part 15)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - 50 mg/l - 72 h (OECD Test Guideline 201)

pimelic acid

No data available

4-Hydroxy-3-methoxycinnamic acid

Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - 32 mg/l - 48 h (OECD Test Guideline 202) Remarks: The value is given in analogy to the following substances: trans-cinnamic acid
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 19 mg/l - 72 h (OECD Test Guideline 201) Remarks: The value is given in analogy to the following substances: trans-cinnamic acid

Pyrocatechol

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 9.22 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - 1.09 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	ErC50 - Chlorella vulgaris (Fresh water algae) - 22 mg/l - 96 h (OECD Test Guideline 201)

Cyclopentanone

Toxicity to fish	semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 100 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

4-hydroxybenzaldehyde

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 41.1 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 37.93 mg/l - 72 h (OECD Test Guideline 201)

4-hydroxybenzoic acid

Toxicity to fish	flow-through test LC50 - Oryzias latipes - 92.8 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 1,000 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 1,000 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to fish(Chronic toxicity)	flow-through test LC50 - Oryzias latipes - > 100 mg/l - 14 d (OECD Test Guideline 204)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - > 100 mg/l - 21 d (OECD Test Guideline 202)

Mandelic acid

No data available

Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test NOEC - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)

2-methylpropionic acid; isobutyric acid

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - 146.6 mg/l - 96 h (DIN 38412 part 15)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 51.25 mg/l - 48 h (DIN 38412)
Toxicity to algae	static test EbC50 - Desmodesmus subspicatus (green algae) - 45.1 mg/l - 72 h (DIN 38412)
Toxicity to bacteria	EC50 - Pseudomonas putida - 57 mg/l - 17 h Remarks: (IUCLID)

3-Hydroxybenzyl alcohol
No data available

Hegzadesil

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - > 500 mg/l - 96 h (DIN 38412)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 259.13 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2) Remarks: The value is given in analogy to the following substances: trimethylamine
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - 150 mg/l - 72 h (DIN 38412)

3-methyl-2-butene-1-ol

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - 46.4 mg/l - 96 h (DIN 38412 part 15)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 144 mg/l - 48 h (Directive 67/548/EEC, Annex V, C.2.)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 72 h (DIN 38412)

δ-Valerolactone
No data available

Nicotin

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 4 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - 3 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - 37 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test NOEC - activated sludge - 27 mg/l - 28 Days Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic	semi-static test NOEC - Daphnia pulex (Water flea) - 0.02 mg/l - 16 d (OECD Test Guideline 211)

toxicity)

4-(2-Aminoethyl)phenol
No data available

Acetoin

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - > 2,200 mg/l - 96 h LC0 - Leuciscus idus (Golden orfe) - 2,200 mg/l - 48 h
Toxicity to bacteria	

3,4-dihydroxycinnamic acid

No data available

3,5-Diiodo-L-tyrosine dihydrate
No data available

glutaric acid

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 6,840 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 738 mg/l - 72 h (OECD Test Guideline 201)
	static test NOEC - Pseudokirchneriella subcapitata (green algae) - 320 mg/l - 72 h (OECD Test Guideline 201)

Sorbic acid

Toxicity to fish	semi-static test LC50 - Oryzias latipes - 75 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 70 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 77 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test NOEC - activated sludge - > 100 mg/l - 3 h (OECD Test Guideline 209)

valeric acid

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 77 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 88.1 mg/l - 48 h (OECD Test Guideline 202) Remarks: (in analogy to similar products)

Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 29.3 mg/l - 72 h (OECD Test Guideline 201)

Adenosine 5'-phosphosulfate sodium salt
No data available

3-hydroxybenzaldehyde

No data available

4-aminobenzoic acid

Toxicity to daphnia and other aquatic invertebrates	LC50 - Daphnia - 10.32 mg/l - 48 h Remarks: (ECHA) The value / statement given is based on a (Q)SAR approach
Toxicity to bacteria	microtox test EC50 - Photobacterium phosphoreum - 27.4 mg/l - 30 min Remarks: (Lit.)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	NOEC - Daphnia - 0.337 mg/l - 21 d Remarks: (ECHA) The value / statement given is based on a (Q)SAR approach

propionic acid

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - > 10,000 mg/l - 96 h (DIN 38412) Remarks: The value is given in analogy to the following substances: calcium dipropionate
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h (Directive 67/548/EEC, Annex V, C.2.) Remarks: The value is given in analogy to the following substances: calcium dipropionate
Toxicity to algae	static test EC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 72 h (OECD Test Guideline 201) Remarks: The value is given in analogy to the following substances: calcium dipropionate
Toxicity to bacteria	EC50 - Pseudomonas putida - 60 mg/l - 17 h (DIN 38412) Remarks: (IUCLID)

Dihydrocostisone

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

maleic acid

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 42.81 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 74.35 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC10 - Pseudomonas putida - 44.6 mg/l - 18 h (DIN 38 412 Part 8) Remarks: The value is given in analogy to the following substances: maleic anhydride
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	EC50 - Daphnia magna (Water flea) - 77 mg/l - 21 d Remarks: The value is given in analogy to the following substances: (ECHA) The value is given in analogy to the following substances: maleic anhydride

Aniline

Toxicity to fish	flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 10.6 mg/l - 96.0 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - 0.16 mg/l - 48 h (US-EPA)
Toxicity to algae	static test ErC50 - Chlorella pyrenoidosa - 175 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - activated sludge - 2,500 mg/l - 10 min Remarks: (Lit.)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Pimephales promelas (fathead minnow) - 0.39 mg/l - 32 d Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	flow-through test NOEC - Daphnia magna (Water flea) - 0.01 mg/l - 21 d (US-EPA)

tryptamine

Toxicity to daphnia and other aquatic	static test EC50 - Daphnia magna (Water flea) - 12.91 mg/l - 48 h

invertebrates	(OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 3.85 mg/l - 72 h (OECD Test Guideline 201)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3261 IMDG: 3261 IATA: 3261

14.2 UN proper shipping name
ADR/RID: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Phenol)
IMDG: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Phenol)
IATA: Corrosive solid, acidic, organic, n.o.s. (Phenol)

14.3 Transport hazard class(es)
ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packaging group
ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Further information : No data available

14.7 Maritime transport in bulk according to IMO instruments
Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Pyrocatechol

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements

H226	Flammable liquid and vapor.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Classification of the mixture		**Classification procedure:**
Acute Tox.4	H302	Calculation method
Skin Corr.1	H314	Calculation method
Eye Dam.1	H318	Calculation method
Skin Sens.1	H317	Calculation method
Muta.2	H341	Calculation method
Carc.1B	H350	Calculation method
Repr.1A	H360D	Calculation method
STOT SE3	H335	Calculation method
STOT RE1	H372	Calculation method
Aquatic Chronic3	H412	Calculation method

Further information

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