

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.01.2019

Version number 10

Revision: 18.01.2019

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

1.1 Product identifier

Trade name: **Akepox 2020 Component B**

Article number: 10610/10567, 10620, 10621

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

No further relevant information available.

Application of the substance / the mixture

Epoxy resin adhesive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg

Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

Laboratory

1.4 Emergency telephone number:

+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER
Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS05



GHS07



GHS08

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· <u>Signal word</u>	Danger
· <u>Hazard-determining components of labelling:</u>	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine phenol formaldehyde polymer with 1,3-benzenedimethanamine and phenol m-phenylenebis(methylamine) N-(3-(trimethoxysilyl)propyl)ethylenediamine 3-aminomethyl-3,5,5-trimethylcyclohexylamine N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)
· <u>Hazard statements</u>	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H341 Suspected of causing genetic defects. H412 Harmful to aquatic life with long lasting effects.
· <u>Precautionary statements</u>	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use. P260 Do not breathe vapours. 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 [or shower]. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/doctor. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· 2.3 Other hazards	
· Results of PBT and vPvB assessment	
· PBT:	Not applicable.
· vPvB:	Not applicable.

SECTION 3: Composition/information on ingredients**3.2 Chemical characterisation: Mixtures**· Description: Mixture of substances listed below with nonhazardous additions.· Dangerous components:

CAS: 38294-64-3 NLP: 500-101-4 Reg.nr.: 01-2119965165-33	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ⚠ Skin Sens. 1, H317 ⚠ Aquatic Chronic 3, H412	12.5-25%
CAS: 57214-10-5 NLP: 500-137-0	formaldehyde polymer with 1,3-benzenedimethanamine and phenol ⚠ Skin Corr. 1B, H314 ⚠ Skin Sens. 1, H317 ⚠ Aquatic Chronic 3, H412	12.5-25%
CAS: 100-51-6 EINECS: 202-859-9 Index number: 603-057-00-5 Reg.nr.: 01-2119492630-38-0000	Benzyl alcohol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	<10%

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CAS: 1477-55-0 EINECS: 216-032-5 Reg.nr.: 01-2119480150-50-xxxx	m-phenylenebis(methylamine) ⚠ Skin Corr. 1B, H314 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1, H317 Aquatic Chronic 3, H412	<10%
CAS: 84852-15-3 EINECS: 284-325-5 Index number: 601-053-00-8 Reg.nr.: 01-2119510715-45-xxxx	4-nonylphenol, branched ⚠ Acute Tox. 3, H331 ⚠ Repr. 2, H361fd ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302	1-5%
	N-(3-(trimethoxysilyl)propyl)ethylenediamine ⚠ Eye Dam. 1, H318 ⚠ Skin Sens. 1, H317	1-5%
CAS: 108-95-2 EINECS: 203-632-7 Index number: 604-001-00-2 Reg.nr.: 01-2119471329-32	phenol ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 ⚠ Muta. 2, H341; STOT RE 2, H373 ⚠ Skin Corr. 1B, H314	1-5%
CAS: 69-72-7 EINECS: 200-712-3 Reg.nr.: 01-2119486984-17	Salicylic acid ⚠ Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302	1-5%
CAS: 2855-13-2 EINECS: 220-666-8 Index number: 612-067-00-9 Reg.nr.: 01-2119514687-32-0000	3-aminomethyl-3,5,5-trimethylcyclohexylamine ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317 Aquatic Chronic 3, H412	<1%
CAS: 123-26-2 EINECS: 204-613-6 Reg.nr.: 01-2120783565-42-xxxx	N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) ⚠ Skin Sens. 1B, H317 Aquatic Chronic 3, H412	<1%

• SVHC

84852-15-3 4-nonylphenol, branched

• Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures• **4.1 Description of first aid measures**• General information:

Take affected persons out into the fresh air.
Position and transport stably in side position.
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

• After inhalation:

Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.

• After skin contact:

If skin irritation continues, consult a doctor.
Immediately wash with water and soap and rinse thoroughly.

• After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

• After swallowing:

Call for a doctor immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.

• **4.2 Most important symptoms and effects, both acute and delayed**

Headache
Dizziness
Dizziness
Nausea
Coughing

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· Information for doctor:

The symptoms of phenol based poisoning appearances are white coloured mouth scabs, shock condition, insensibility, bradycardia and renal dysfunction and damage of renal tissue. Appropriate therapy measures: Administration of an adequate volume of liquid, gastrolavage in application of carbo medicinalis, sodium sulphate with plenty of water, infusion of glucose solution (5%); measures against state of shock, hemodialysis.

Nonylphenol based exposition: causes corrosive burns, damages respiratory tract, eyes, skin and digestive system up to complete tissue destruction. Temporary dysfunctions such as dizziness, headache, nausea and diarrhea may occur. Can cause health disturbances like dermal bleaching, renal and hepatic damage.

Amines: Inhalation, swallowing or dermal contact may cause health damages. Cause burns, harm respiratory tract, eyes, skin, and digestion system in worst case up to complete destruction. Intermediate interferences such as headache, nausea, cough, dyspnea may occur. May cause allergies. Sensitized users may react towards very low amine concentrations and should avoid any further contact with this group of chemicals.

Danger of impaired breathing.

· Hazards· **4.3 Indication of any immediate medical attention and special treatment needed**

If swallowed, gastric irrigation with added, activated carbon.

SECTION 5: Firefighting measures· **5.1 Extinguishing media**· Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.

· **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide (CO)

Nitrogen oxides (NO_x)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

· **5.3 Advice for firefighters**· Protective equipment:

Wear fully protective suit.

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

· Additional information

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures· **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow to penetrate the ground/soil.

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Dispose of the material collected according to regulations.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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- Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections** See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Keep receptacles tightly sealed.
Store in cool, dry place in tightly closed receptacles.
Use only in well ventilated areas.
Ensure good ventilation/exhaustion at the workplace.
- Information about fire - and explosion protection: No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- Storage:
- Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
Prevent any seepage into the ground.
- Information about storage in one common storage facility: Store away from oxidising agents.
Store away from foodstuffs.
- Further information about storage conditions: Store receptacle in a well ventilated area.
Keep container tightly sealed.
- Storage class: 8
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- **8.1 Control parameters**

- Ingredients with limit values that require monitoring at the workplace:

108-95-2 phenol

WEL	Short-term value: 16 mg/m ³ , 4 ppm
	Long-term value: 7.8 mg/m ³ , 2 ppm
Sk	

- DNELs

57214-10-5 formaldehyde polymer with 1,3-benzenedimethanamine and phenol

Oral	DNEL (Kurzzeit-akut)	3.33 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	3.33 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	0.00385-2.8 mg/kg bw/day (ARB)
		0.000167-0.008 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	0.000385-0.28 mg/kg bw/day (ARB)
Inhalative		0.000167-0.008 mg/kg bw/day (BEV)
	DNEL (Kurzzeit-akut)	2-6 mg/m ³ Air (ARB)

100-51-6 Benzyl alcohol

Oral	DNEL (Kurzzeit-akut)	20 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	4 mg/kg bw/day (BEV)

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Dermal	DNEL (Kurzzeit-akut)	40 mg/kg bw/day (ARB) 20 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	8 mg/kg bw/day (ARB) 4 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	110 mg/m ³ Air (ARB) 27 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	22 mg/m ³ Air (ARB) 5.4 mg/m ³ Air (BEV)

1477-55-0 m-phenylenebis(methylamine)

Dermal	DNEL (Langzeit-wiederholt)	0.33 mg/kg bw/day (ARB)
Inhalative	DNEL (Langzeit-wiederholt)	1.2 mg/m ³ Air (ARB)

84852-15-3 4-nonylphenol, branched

Dermal	DNEL (Langzeit-wiederholt)	7.5 mg/kg bw/day (ARB)
Inhalative	DNEL (Langzeit-wiederholt)	0.5 mg/m ³ Air (ARB)

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Oral	DNEL (Langzeit-wiederholt)	2.5 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	5 mg/kg bw/day (ARB)
	DNEL (Langzeit-wiederholt)	5 mg/kg bw/day (ARB) 2.5 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	35.5 mg/m ³ Air (ARB) 8.7 mg/m ³ Air (BEV)

108-95-2 phenol

Oral	DNEL (Langzeit-wiederholt)	0.4 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	0.4 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	8 mg/m ³ Air (ARB) 1.32 mg/m ³ Air (BEV)

69-72-7 Salicylic acid

Oral	DNEL (Kurzzeit-akut)	4 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	1 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	2 mg/kg bw/day (ARB) 1 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	16 mg/m ³ Air (ARB) 0.2-4 mg/m ³ Air (BEV)

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Oral	DNEL (Langzeit-wiederholt)	0.526 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	20.1 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	20.1 mg/m ³ Air (ARB)

· **PNECs****57214-10-5 formaldehyde polymer with 1,3-benzenedimethanamine and phenol**

PNEC (wässrig)	30 mg/l (KA)
	0.002 mg/l (MW) 0.02 mg/l (SW)
PNEC (fest)	0.0236 mg/kg Trockengew (BO)
	0.01 mg/kg Trockengew (MWS)
	0.1001 mg/kg Trockengew (SWS)

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100-51-6 Benzyl alcohol

PNEC (wässrig)	39 mg/l (KA) 0.1 mg/l (MW) 1 mg/l (SW) 2.3 mg/l (WAS)
PNEC (fest)	0.456 mg/kg Trockengew (BO) 0.527 mg/kg Trockengew (MWS) 5.27 mg/kg Trockengew (SWS)

1477-55-0 m-phenylenebis(methylamine)

PNEC (wässrig)	0.0094 mg/l (MW) 0.094 mg/l (SW)
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N-(3-(trimethoxysilyl)propyl)ethylenediamine

PNEC (wässrig)	25 mg/l (KA) 0.0062 mg/l (MW) 0.062 mg/l (SW) 0.62 mg/l (WAS)
PNEC (fest)	0.0075 mg/kg Trockengew (BO) 0.005 mg/kg Trockengew (MWS) 0.05 mg/kg Trockengew (SWS)

108-95-2 phenol

PNEC (wässrig)	2.1 mg/l (KA) 0.00077 mg/l (MW) 0.0077 mg/l (SW)
PNEC (fest)	0.136 mg/kg Trockengew (BO) 0.00915 mg/kg Trockengew (MWS) 0.0915 mg/kg Trockengew (SWS)

69-72-7 Salicylic acid

PNEC (wässrig)	162 mg/l (KA) 0.02 mg/l (MW) 0.2 mg/l (SW)
PNEC (fest)	0.166 mg/kg Trockengew (BO) 0.142 mg/kg Trockengew (MWS) 1.42 mg/kg Trockengew (SWS)

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

PNEC (wässrig)	3.18 mg/l (KA) 0.006 mg/l (MW) 0.06 mg/l (SW)
PNEC (fest)	1.121 mg/kg Trockengew (BO) 0.578 mg/kg Trockengew (MWS) 5.784 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

- Personal protective equipment:
- General protective and hygienic measures:

Use skin protection cream for skin protection.
Clean skin thoroughly immediately after handling the product.
Keep away from foodstuffs, beverages and feed.

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· Respiratory protection:

Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Not necessary if room is well-ventilated.

Short term filter device:

Filter A/P2

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Protection of hands:

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:

STOKO EMULSION (<http://www.stoko.com>)

Skin protection recommendation for skin cleaning after product handling:

Kresto Classic (<http://debstoko.com>)

Skin protection agent recommendation for skin aftercare:

STOKO VITAN (<http://www.stoko.com>)

The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

Value for the permeation: Level \leq 6, 480 min

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:

Butyl rubber, BR

Butoject (KCL, Art_No. 897, 898)

Nitrile rubber, NBR

Camatril (KCL, Art_No. 730, 731, 732, 733)

Dermatril (Art_No. 740, 741, 742)

Chloroprene rubber, CR

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- Camapren (KCL, Art_No. 720, 722, 726)
- As protection from splashes gloves made of the following materials are suitable:
Nitrile rubber, NBR
Camatril (KCL, 730, 731, 732, 733)
Chloroprene rubber, CR
Camapren (KCL, Art_No. 720, 722, 726)
 - Not suitable are gloves made of the following materials:
Natural rubber, NR
Fluorocarbon rubber (Viton)
Leather gloves
Strong material gloves
 - Eye protection:
 Tightly sealed goggles
 - Body protection:
Protective work clothing

SECTION 9: Physical and chemical properties**· 9.1 Information on basic physical and chemical properties****· General Information****· Appearance:**

<u>Form:</u>	Pasty
<u>Colour:</u>	Yellow
<u>Odour:</u>	Characteristic

· pH-value: Not applicable

· Change in condition

<u>Melting point/freezing point:</u>	Undetermined.
<u>Initial boiling point and boiling range:</u>	205 °C

· Flash point: 101 °C

· Ignition temperature: 380 °C

· Decomposition temperature: > 250 °C

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product does not present an explosion hazard.

· Explosion limits:

<u>Lower:</u>	1.3 Vol %
<u>Upper:</u>	13 Vol %

· Vapour pressure at 20 °C: 0.1 hPa

· Density at 20 °C: 1.53 g/cm³

· Solubility in / Miscibility with water: Not miscible or difficult to mix.

· Viscosity:

<u>Dynamic at 20 °C:</u>	40,000 mPas
<u>Kinematic:</u>	Not determined.

· Solvent content:

Organic solvents: 9.0 %

Solids content: 72.8 %

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· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Strong exothermic reaction with acids.
Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Corrosive gases/vapours

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	4,519 mg/kg
Dermal	LD50	15,361 mg/kg
Inhalative	LC50/4 h	21-22.7 mg/l

57214-10-5 formaldehyde polymer with 1,3-benzenedimethanamine and phenol

Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,020 mg/kg (rat)

100-51-6 Benzyl alcohol

Oral	LD50	1,040 mg/kg (mouse)
		1,040 mg/kg (rabbit)
		1,230 mg/kg (rat)
		400 mg/kg (rat)
Dermal	LD50	200 mg/kg (mouse)
		400 mg/kg (rat)
		2,000 mg/kg (rabbit)
		400 mg/kg (rat)
Inhalative	LC50/8h	1,000 ppm (rat)
		11 mg/l (rat)
		360 mg/l (daphnia magna)
		645 mg/l (goo)

1477-55-0 m-phenylenebis(methylamine)

Oral	LD50	930 mg/kg (rat)
	NOEL	150 mg/kg (rat)
Dermal	LD50	3,100 mg/kg (rabbit)
Inhalative	LC50/4 h	2.4 mg/l (rat)
	LC50/1h	3.89 mg/l (rat)

84852-15-3 4-nonylphenol, branched

Oral	LD50	1,210 mg/kg (rat)
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Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3.636 mg/l (mouse)
N-(3-(trimethoxysilyl)propyl)ethylenediamine		
Oral	LD50	2,995 mg/kg (rat)
	NOEL	≥500 mg/kg (rat) (OECD 422)
	NOAEL	≥500 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	1.49-2.44 mg/l (rat)
108-95-2 phenol		
Oral	LD50	300 mg/kg (mouse)
		317 mg/kg (rat)
Dermal	LD50	630 mg/kg (rat)
Inhalative	LC50/4 h	316 mg/l (rat)
	LC50/8h	0.9 mg/l (rat)
69-72-7 Salicylic acid		
Oral	LD50	891 mg/kg (rat)
	NOAEL-Werte	250 mg/kg (rat) (OECD 416)
Dermal	LD50	>2,000 mg/kg (rabbit)
	LC50/48h	90 mg/l (Leuciscus idus)
2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine		
Oral	LD50	1,030 mg/kg (rat)
	NOAEL-Werte	>250 mg/kg (rat)
Dermal	LD50	1,840 mg/kg (rabbit)
		>2,000 mg/kg (rat)

- Primary irritant effect:
- Skin corrosion/irritation Causes severe skin burns and eye damage.
- Serious eye damage/irritation Causes serious eye damage.
- Respiratory or skin sensitisation May cause an allergic skin reaction.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Suspected of causing genetic defects.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure Based on available data, the classification criteria are not met.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information**• 12.1 Toxicity****• Aquatic toxicity:****38294-64-3 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine**

EC50	>1,000 mg/l (BES)
EL50/48h	11.1 mg/l (daphnia magna)
EL50/72h	79.4 mg/l (Pseudokirchneriella subcapitata)
LL50/96h	70.7 mg/l (Oncorhynchus mykiss)

57214-10-5 formaldehyde polymer with 1,3-benzenedimethanamine and phenol

EC50	491.3 mg/l (BES)
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EC50/48h	29.8 mg/l (daphnia magna)
EC50/72h	20.4 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	25.9 mg/l (Oncorhynchus mykiss)

100-51-6 Benzyl alcohol

EC50/24h	55-400 mg/l (daphnia magna)
EC50/96h	640 mg/l (Scenedesmus pluvialis)
EC50	2,100 mg/l (BES) (OECD 209)
	79 mg/l (Scenedesmus quadricauda)
EC10/16h	658 mg/l (pseudomonas putida)
EC50/48h	230 mg/l (daphnia magna) (OECD 202)
EC0	640 mg/l (Scenedesmus quadricauda)
EC50/16h	658 mg/l (pseudomonas putida)
EC50/30min	71.4 mg/l (Photobac. phosphoreum)
	400 mg/l (pseudomonas putida)
IC5/96h	640 mg/l (Scenedesmus quadricauda)
NOEC	310 mg/kg (Pseudokirchneriella subcapitata)
NOEC/21d	51 mg/l (daphnia magna) (OECD211)
EC50/72h	770 mg/l (green alge) (OECD 201)
	770 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	645 mg/l (goo)
	10 mg/l (Iepomis macrochirus)
	460 mg/l (Pimephales promelas)

1477-55-0 m-phenylenebis(methylamine)

EC50/48h	15.2 mg/l (daphnia magna)
EC50/72h	12 mg/l (Scenedesmus subspicatus)
	20.3 mg/l (selenastrum capricornutum)
LC50/96h	>100 mg/l (Oncorhynchus mykiss)
	87.6 mg/l (Oryzias latipes)
	>100 mg/l (Zebrafärbung)

84852-15-3 4-nonylphenol, branched

EC50/96h	0.41 mg/l (green alge)
EC50/48h	0.14 mg/l (daphnia magna)
NOEC/21d	0.024 mg/l (daphnia magna)
EC50/72h	1.3 mg/l (Scenedesmus subspicatus)
LC50/96h	0.135 mg/l (Pimephales promelas)

N-(3-(trimethoxysilyl)propyl)ethylenediamine

EC50	435 mg/l (Klärschlamm: Atmungs-/Vermehrungshemmung)
IC50/72h	8.8 mg/l (green alge) (OECD 201)
EC50/48h	81 mg/l (daphnia magna)
EC50/16h	67 mg/l (pseudomonas putida)
NOEC	3.1 mg/kg (green alge) (OECD 201)
	≥1,000 mg/kg (Eisenia fetida (Regenwürmer)) (OECD 207)
NOEC/21d	>1 mg/l (daphnia magna)
EC50/48h	87.4 mg/l (daphnia magna)
EC50/72h	5 mg/l (green alge)
LC50/96h	597 mg/l (Danio rerio.)

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	168 mg/l (pimephales promelas)
108-95-2 phenol	
EC50/24h	21 mg/l (BO)
EC50/96h	61.1 mg/l (green alge)
EC50/48h	3.1 mg/l (daphnia magna)
LC50/96h	8.9 mg/l (Oncorhynchus mykiss)
69-72-7 Salicylic acid	
EC50	>3,200 mg/l (BES) (OECD 209)
LC50/24h	105-230 mg/l (daphnia magna)
EC50/48h	870 mg/l (daphnia magna) (OECD 202)
EC50/16h	380 mg/l (bacteria)
NOEC/21d	10 mg/l (daphnia magna) (OECD 202 II)
EC50/72h	>100 mg/l (green alge) (OECD 201)
LC50/96h	1,370 mg/l (piscis) (OECD 203)
	1,380 mg/l (pimephales promelas)
2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
EC50/24h	44 mg/l (daphnia magna)
LC 0/96h	70 mg/l (piscis)
EC10/18h	1,120 mg/l (pseudomonas putida)
EC50/48h	23 mg/l (daphnia magna) (OECD TG 202)
ErC50/72h	37 mg/l (Scenedesmus subspicatus) (EG 88/302)
NOEC/21d	3 mg/l (daphnia magna)
EC50/72h	37 mg/l (green alge) (EG 88/302)
	50 mg/l (Scenedesmus subspicatus)
LC50/96h	110 mg/l (Brachydanio rerio) (EG 84/449)
	110 mg/l (Leuciscus idus) (EG 84/449)

• **12.2 Persistence and degradability**

No further relevant information available.

• **12.3 Bioaccumulative potential**

No further relevant information available.

• **12.4 Mobility in soil**

No further relevant information available.

• Ecotoxicological effects:

• Remark:

Harmful to fish

• Additional ecological information:

• General notes:

Do not allow product to reach ground water, water course or sewage system.

Harmful to aquatic organisms

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

• **12.5 Results of PBT and vPvB assessment**

• PBT:

Not applicable.

• vPvB:

Not applicable.

• **12.6 Other adverse effects**

No further relevant information available.

SECTION 13: Disposal considerations

• **13.1 Waste treatment methods**

• Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

• European waste catalogue

20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
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20 01 00	separately collected fractions (except 15 01)
20 01 27*	paint, inks, adhesives and resins containing hazardous substances

- Uncleaned packaging:
- Recommendation: Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
- Recommended cleansing agents: Alcohol
acetone

SECTION 14: Transport information

- **14.1 UN-Number**
- ADR, IMDG, IATA UN2735
- **14.2 UN proper shipping name**
- ADR 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine, formaldehyde polymer with 1,3-benzenedimethanamine and phenol)
- IMDG, IATA POLYAMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine, formaldehyde polymer with 1,3-benzenedimethanamine and phenol)
- **14.3 Transport hazard class(es)**
- ADR
- 
- Class 8 (C7) Corrosive substances.
- Label 8
- IMDG, IATA
- 
- Class 8 Corrosive substances.
- Label 8
- **14.4 Packing group**
- ADR, IMDG, IATA III
- **14.5 Environmental hazards:**
- Marine pollutant: No
- **14.6 Special precautions for user**
- Danger code (Kemler): 80
- EMS Number: F-A,S-B
- Segregation groups Alkalis
- Stowage Category A
- Segregation Code SG35 Stow "separated from" acids.
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**
- Not applicable.

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• Transport/Additional information:

• ADR

• Limited quantities (LQ)

5L

• Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

• Transport category

3

• Tunnel restriction code

E

• IMDG

• Limited quantities (LQ)

1L

• Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

• UN "Model Regulation":

UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-ISOPROPYLIDENEDIPHENOL, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE, REACTION PRODUCTS WITH 3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE, FORMALDEHYDE POLYMER WITH 1,3-BENZENEDIMETHANAMINE AND PHENOL), 8, III

SECTION 15: Regulatory information

• **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

• Directive 2012/18/EU

• Named dangerous substances -

ANNEX I

None of the ingredients is listed.

• REGULATION (EC) No 1907/2006

ANNEX XVII

Conditions of restriction: 3

• Regulation (EU) No 649/2012

84852-15-3 4-nonylphenol, branched

Annex I Part 1
Annex I Part 2

• National regulations:

• Information about limitation of use: Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

• Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

• Substances of very high concern (SVHC) according to REACH, Article 57

84852-15-3 4-nonylphenol, branched

• VOC EU

142.8 g/l

• **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• Relevant phrases

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

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H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H331 Toxic if inhaled.
 H332 Harmful if inhaled.
 H341 Suspected of causing genetic defects.
 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
 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.
 H412 Harmful to aquatic life with long lasting effects.
 refer to Technical Data Sheet (TDS)

• Recommended restriction of use

• Department issuing SDS:

• Contact:

• Abbreviations and acronyms:

Laboratory

Dieter Zimmermann

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1B: Skin sensitisation – Category 1B

Muta. 2: Germ cell mutagenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3