Safety Data Sheet according to (EC) No 1907/2006 as amended

SDS No. : 207866
V006.0

Loctite EA 3455 B

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

1.1. Product identifier

Loctite EA 3455 B
UFI: 456G-F0JA-000F-XV05

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

Intended use:
Epoxy Hardener

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.com.

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin corrosion	Category 1B
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	
Chronic hazards to the aquatic environment	Category 2
H411 Toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:	
Contains	Quartz (SiO2) "respirable particulates (reaches the alveoli)" (RCS) >=1% - <10% Amines, polyethylenepoly-, tetraethylenepentamine fraction Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine Amines, polyethylenepoly-, triethylenetetramine fraction benzyl alcohol
Signal word:	Danger
Hazard statement:	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H373 May cause damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Precautionary statement:	"***" ***For consumer use only: P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P501 Dispose of contents/container in accordance with national regulation.***
Precautionary statement: Prevention	P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement: Response	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 or doctor.

2.3. Other hazards

None if used properly.

Following substances are present in a concentration ≥ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration ≥ the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS No. EC No REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Quartz (SiO2) "respirable particulates (reaches the alveoli)" (RCS) >=1% - <10% 14808-60-7 238-878-4	40- < 50 %	STOT RE 2, H373	dermal:ATE = > 2.000 mg/kg oral:ATE = > 2.000 mg/kg	
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7 292-587-7 01-2119487290-37	15- < 20 %	Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Eye Dam. 1, H318		
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1 500-191-5 01-2119972320-44	10- < 20 %	Aquatic Chronic 2, H411 Eye Dam. 1, H318 Skin Irrit. 2, H315 Aquatic Acute 1, H400 Skin Sens. 1, H317	M acute = 1	
benzyl alcohol 100-51-6 202-859-9 01-2119492630-38	2- < 5 %	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317	oral:ATE = 1.200 mg/kg	
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4 203-180-0 01-2119538811-39	1- < 3 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Acute Tox. 4, H302	STOT SE 3; H335; C >= 20 %	
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2 202-013-9 01-2119560597-27	1- < 3 %	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319		
2,6-dimethylheptan-4-one 108-83-8 203-620-1 01-2119474441-41	0,1- < 1 %	Flam. Liq. 3, H226 STOT SE 3, H335	STOT SE 3; H335; C >= 10 %	
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 292-588-2 01-2119487919-13	0,1- < 1 %	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Chronic 3, H412		

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.
For full text of the H - statements and other abbreviations see section 16 "Other information".

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.

Causes burns.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional information:
In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.
Keep away from sources of ignition.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up
Dispose of contaminated material as waste according to Section 13.
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid skin and eye contact.
See advice in section 8

Hygiene measures:
Good industrial hygiene practices should be observed.
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities
Store in sealed original container.
Ensure good ventilation/extraction.
Store in a cool, well-ventilated place.
Refer to Technical Data Sheet.

7.3. Specific end use(s)
Epoxy Hardener

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m^3	Value type	Short term exposure limit category / Remarks	Regulatory list
Benzyl alcohol 100-51-6			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Benzyl alcohol 100-51-6	5	22	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Benzyl alcohol 100-51-6			Skin designation:	Can be absorbed through the skin.	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	aqua (freshwater)		0,01 mg/l				
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	aqua (marine water)		0,001 mg/l				
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	aqua (intermittent releases)		0,068 mg/l				
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	sediment (freshwater)				3,198 mg/kg		
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	sediment (marine water)				0,32 mg/kg		
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Soil				2,5 mg/kg		
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	sewage treatment plant (STP)		4,6 mg/l				
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Air						no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Predator						no potential for bioaccumulation
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	aqua (freshwater)		0,004 mg/l				
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	Freshwater - intermittent		0,042 mg/l				
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	aqua (marine water)		0 mg/l				
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	sewage treatment plant (STP)		3,84 mg/l				
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	sediment (freshwater)				434,02 mg/kg		
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	sediment (marine water)				43,4 mg/kg		
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	Soil				86,78 mg/kg		
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	Predator						no potential for bioaccumulation
Benzyl alcohol 100-51-6	Soil				0,456 mg/kg		
Benzyl alcohol 100-51-6	sewage treatment plant (STP)		39 mg/l				
Benzyl alcohol 100-51-6	sediment (freshwater)				5,27 mg/kg		
Benzyl alcohol	sediment				0,527		

100-51-6	(marine water)				mg/kg		
Benzyl alcohol 100-51-6	aqua (marine water)		0,1 mg/l				
Benzyl alcohol 100-51-6	Freshwater - intermittent		2,3 mg/l				
Benzyl alcohol 100-51-6	aqua (freshwater)		1 mg/l				
Benzyl alcohol 100-51-6	Predator						no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	aqua (freshwater)		0,073 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Freshwater - intermittent		0,73 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	aqua (marine water)		0,0073 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	sewage treatment plant (STP)		65 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	sediment (freshwater)				0,35 mg/kg		
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	sediment (marine water)				0,035 mg/kg		
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Soil				0,028 mg/kg		
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Predator						no potential for bioaccumulation
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	aqua (freshwater)		0,046 mg/l				
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	aqua (marine water)		0,005 mg/l				
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Freshwater - intermittent		0,46 mg/l				
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Marine water - intermittent		0,046 mg/l				
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	sewage treatment plant (STP)		0,2 mg/l				
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	sediment (freshwater)				0,262 mg/kg		
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	sediment (marine water)				0,026 mg/kg		
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Soil				0,025 mg/kg		
2,6-dimethylheptan-4-one 108-83-8	aqua (freshwater)		0,03 mg/l				
2,6-dimethylheptan-4-one 108-83-8	aqua (marine water)		0,003 mg/l				
2,6-dimethylheptan-4-one 108-83-8	aqua (intermittent releases)		0,3 mg/l				
2,6-dimethylheptan-4-one 108-83-8	sediment (freshwater)				0,46 mg/kg		
2,6-dimethylheptan-4-one 108-83-8	sediment (marine water)				0,046 mg/kg		
2,6-dimethylheptan-4-one 108-83-8	Soil				0,0746 mg/kg		
2,6-dimethylheptan-4-one 108-83-8	sewage treatment plant (STP)		2,55 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (intermittent releases)		0,2 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (freshwater)		0,027 mg/l				
Amines, polyethylenepoly-,	aqua (marine		0,003 mg/l				

triethylenetetramine fraction 90640-67-8	water)						
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sediment (freshwater)				8,572 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sediment (marine water)				0,857 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Soil				1,25 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sewage treatment plant (STP)		0,13 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	oral						no potential for bioaccumulation

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Workers	inhalation	Long term exposure - systemic effects		1,29 mg/m3	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Workers	inhalation	Acute/short term exposure - systemic effects		6940 mg/m3	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Workers	dermal	Long term exposure - systemic effects		0,74 mg/kg	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Workers	dermal	Long term exposure - local effects		0,036 mg/cm2	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	inhalation	Long term exposure - systemic effects		0,38 mg/m3	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	inhalation	Acute/short term exposure - systemic effects		2071 mg/m3	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	dermal	Long term exposure - systemic effects		0,32 mg/kg	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	dermal	Acute/short term exposure - systemic effects		10 mg/kg	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	dermal	Long term exposure - local effects		0,56 mg/cm2	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	dermal	Acute/short term exposure - local effects		1,29 mg/cm2	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	oral	Long term exposure - systemic effects		0,53 mg/kg	no hazard identified
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	General population	oral	Acute/short term exposure - systemic effects		26 mg/kg	no hazard identified
Benzyl alcohol 100-51-6	General population	oral	Acute/short term exposure - systemic effects		20 mg/kg	no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	oral	Long term exposure - systemic effects		4 mg/kg	no potential for bioaccumulation
Benzyl alcohol 100-51-6	Workers	inhalation	Acute/short term exposure - systemic effects		110 mg/m3	no potential for bioaccumulation
Benzyl alcohol 100-51-6	Workers	inhalation	Long term exposure - systemic effects		22 mg/m3	no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	inhalation	Acute/short term exposure - systemic effects		27 mg/m3	no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	inhalation	Long term exposure - systemic effects		5,4 mg/m3	no potential for bioaccumulation
Benzyl alcohol 100-51-6	Workers	dermal	Acute/short term exposure - systemic effects		40 mg/kg	no potential for bioaccumulation
Benzyl alcohol 100-51-6	Workers	dermal	Long term exposure - systemic effects		8 mg/kg	no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	dermal	Acute/short term exposure - systemic effects		20 mg/kg	no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	dermal	Long term exposure - systemic effects		4 mg/kg	no potential for bioaccumulation
Benzyl alcohol 100-51-6	Workers	dermal	Acute/short term exposure - local			no potential for bioaccumulation

			effects			
Benzyl alcohol 100-51-6	Workers	dermal	Long term exposure - local effects			no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	dermal	Acute/short term exposure - local effects			no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	dermal	Long term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	inhalation	Long term exposure - systemic effects		24,7 mg/m3	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	inhalation	Long term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	inhalation	Acute/short term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	dermal	Long term exposure - systemic effects		7 mg/kg	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	dermal	Long term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	dermal	Acute/short term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	inhalation	Long term exposure - systemic effects		4,35 mg/m3	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	inhalation	Long term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	inhalation	Acute/short term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	dermal	Long term exposure - systemic effects		2,5 mg/kg	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	dermal	Long term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	dermal	Acute/short term exposure - local effects			no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	oral	Long term exposure - systemic effects		2,5 mg/kg	no potential for bioaccumulation
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	inhalation	Long term exposure - systemic effects		0,53 mg/m3	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	inhalation	Acute/short term exposure - systemic effects		2,1 mg/m3	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	dermal	Long term exposure - systemic effects		0,15 mg/kg	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	dermal	Acute/short term exposure - systemic effects		0,6 mg/kg	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	inhalation	Long term exposure - systemic effects		0,13 mg/m3	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	inhalation	Acute/short term exposure - systemic effects		0,13 mg/m3	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	dermal	Long term exposure - systemic effects		0,075 mg/kg	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	dermal	Acute/short term exposure - systemic effects		0,075 mg/kg	

2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	oral	Long term exposure - systemic effects		0,075 mg/kg	
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	inhalation	Acute/short term exposure - local effects			
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	inhalation	Long term exposure - local effects			
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	dermal	Acute/short term exposure - local effects			
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	Workers	dermal	Long term exposure - local effects			
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	inhalation	Acute/short term exposure - local effects			
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	inhalation	Long term exposure - local effects			
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	dermal	Acute/short term exposure - local effects			
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2	General population	dermal	Long term exposure - local effects			
2,6-dimethylheptan-4-one 108-83-8	Workers	inhalation	Long term exposure - systemic effects		53 mg/m3	
2,6-dimethylheptan-4-one 108-83-8	Workers	dermal	Long term exposure - systemic effects		7,7 mg/kg	
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Workers	Inhalation	Long term exposure - systemic effects		0,54 mg/m3	no potential for bioaccumulation
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	General population	Inhalation	Long term exposure - systemic effects		0,096 mg/m3	no potential for bioaccumulation
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	General population	oral	Long term exposure - systemic effects		0,14 mg/kg	no potential for bioaccumulation

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Skin protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Delivery form	liquid
Colour	Light gray / grey
Odor	Characteristic
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Initial boiling point	Not available.
Initial boiling point	> 200,0 °C (> 392 °F)
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	> 60 °C (> 140 °F)
Auto-ignition temperature	Currently under determination
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic)	Currently under determination
Viscosity, dynamic (; 23 °C (73.4 °F))	100.000 cp no method / method unknown
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure	Currently under determination
Density (25 °C (77 °F))	1,52 - 1,56 g/cm3 None
Relative vapour density:	Currently under determination
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with strong oxidants.
Acids.
Reaction with strong acids.
Strong bases.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Stable under normal conditions of storage and use.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
carbon oxides.
Rapid polymerisation may generate excessive heat and pressure.
May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Quartz (SiO2) "respirable particulates (reaches the alveoli)" (RCS) >=1% - <10% 14808-60-7	Acute toxicity estimate (ATE)	> 2.000 mg/kg		Expert judgement
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	LD50	3.221 mg/kg	rat	not specified
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
benzyl alcohol 100-51-6	Acute toxicity estimate (ATE)	1.200 mg/kg		Expert judgement
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	LD50	1.410 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	LD50	1.200 mg/kg	rat	not specified
2,6-dimethylheptan-4-one 108-83-8	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LD50	1.716 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Quartz (SiO2) "respirable particulates (reaches the alveoli)" (RCS) >=1% - <10% 14808-60-7	Acute toxicity estimate (ATE)	> 2.000 mg/kg		Expert judgement
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	LD50	1.260 mg/kg	rabbit	not specified
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
benzyl alcohol 100-51-6	LD50	> 2.000 mg/kg	rabbit	not specified
2,6-dimethylheptan-4-one 108-83-8	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LD50	1.465 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
benzyl alcohol 100-51-6	LC50	> 5,4 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	corrosive		Corrositex Biobarrier Membrane (reconstituted collagen matrix)	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	irritating or corrosive		Human, EpiDermTM SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	not corrosive		Human, in vitro skin model	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
benzyl alcohol 100-51-6	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	Sub-Category 1C (corrosive)		Corrositex Biobarrier Membrane (reconstituted collagen matrix)	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
2,6-dimethylheptan-4-one 108-83-8	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	corrosive		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
benzyl alcohol 100-51-6	irritating	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2,6-dimethylheptan-4-one 108-83-8	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Category 1 (irreversible effects on the eye)		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	Sensitizing	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	not sensitising	Guinea pig maximisation test	guinea pig	EU Method B.6 (Skin Sensitisation)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2,6-dimethylheptan-4-one 108-83-8	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Sensitizing	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	positive	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	positive	sister chromatid exchange assay in mammalian cells	with and without		equivalent or similar to OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
benzyl alcohol 100-51-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2,6-dimethylheptan-4-one 108-83-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,6-dimethylheptan-4-one 108-83-8	negative	in vitro mammalian chromosome aberration test	without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2,6-dimethylheptan-4-one 108-83-8	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
benzyl alcohol	negative	intraperitoneal		mouse	OECD Guideline 474

100-51-6					(Mammalian Erythrocyte Micronucleus Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
benzyl alcohol 100-51-6	not carcinogenic	oral: gavage	104 weeks once daily, 5 days/week	rat	male/female	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not carcinogenic	dermal	lifetime three times/w	mouse	male	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
benzyl alcohol 100-51-6	NOAEL P 200 mg/kg	screening	oral: gavage	mouse	not specified

STOT-single exposure:

No data available.

STOT-repeated exposure:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	NOAEL 200 mg/kg	dermal	20 d 6 h/d, 5 d/w	rabbit	OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
benzyl alcohol 100-51-6	NOAEL 400 mg/kg	oral: gavage	13 weeks once daily, 5 days/week	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard:

No data available.

11.2 Information on other hazards
11.2.1 Endocrine disrupting properties

No substance data available.

No data available.

SECTION 12: Ecological information

General ecological information:

Do not empty into drains / surface water / ground water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	LC50	420 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	LL50	> 0,15 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
benzyl alcohol 100-51-6	LC50	460 mg/l	96 h	Pimephales promelas	EPA OPP 72-1 (Fish Acute Toxicity Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	LC50	> 500 mg/l	96 h	Leuciscus idus melanotus	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	LC50	153 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	ISO 7346-1 (Determination of the Acute Lethal Toxicity of Substances to a Freshwater Fish [Brachydanio rerio Hamilton-Buchanan (Teleostei, Cyprinidae)]
2,6-dimethylheptan-4-one 108-83-8	LC50	30 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LC50	330 mg/l	96 h	Pimephales promelas	other guideline:

Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	EC50	24,1 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
benzyl alcohol 100-51-6	EC50	230 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	EC50	> 1.500 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,4,6-tris(dimethylaminomethyl)phe	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute

nol 90-72-2					Immobilisation Test)
2,6-dimethylheptan-4-one 108-83-8	EC50	37,2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC50	31 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances **CAS-No.**	**Value type**	**Value**	**Exposure time**	**Species**	**Method**
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	EC10	1,9 mg/l	21 d	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)
benzyl alcohol 100-51-6	NOEC	51 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC10	1,9 mg/l	21 day	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	EC50	6,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	NOEC	0,5 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	EC50	0,15 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	EC10	0,022 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
benzyl alcohol 100-51-6	EC50	770 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
benzyl alcohol 100-51-6	NOEC	310 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	EC50	73 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	NOEC	44,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	EC50	46,7 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	NOEC	6,44 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,6-dimethylheptan-4-one 108-83-8	EC50	46,9 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,6-dimethylheptan-4-one 108-83-8	NOEC	3,55 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC50	20 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC10	1,34 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	EC50	97,3 mg/l	2 h	other:	other guideline:
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	EC10	130 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

68082-29-1					
benzyl alcohol 100-51-6	EC10	658 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	EC10	240 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	EC0	27 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
2,6-dimethylheptan-4-one 108-83-8	EC0	16 mg/l			not specified

12.2. Persistence and degradability

Biodegradability (Screening Tests):
The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	not readily biodegradable.	aerobic	0 %	162 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	not inherently biodegradable	aerobic	17 %	84 d	OECD Guideline 302 A (Inherent Biodegradability: Modified SCAS Test)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	not readily biodegradable.	no data	> 0 - < 60 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
benzyl alcohol 100-51-6	readily biodegradable	aerobic	92 - 96 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	inherently biodegradable	aerobic	94 %	20 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	readily biodegradable	aerobic	79 - 80 %	28 d	OECD 301 A - F
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	not readily biodegradable.	aerobic	4 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
2,6-dimethylheptan-4-one 108-83-8	readily biodegradable	aerobic	88 %	20 day	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not readily biodegradable.	aerobic	0 %	162 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not inherently biodegradable	aerobic	20 %	84 d	OECD Guideline 302 A (Inherent Biodegradability: Modified SCAS Test)

No substance data available.

(Bio)degradability (Simulation Tests):
No data available.

12.3. Bioaccumulative potential

Partition Coefficient (octanol/water)
The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Amines, polyethylenepoly-, tetraethylenepentamine fraction 90640-66-7	-3,16		QSAR (Quantitative Structure Activity Relationship)
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine 68082-29-1	10,34		QSAR (Quantitative Structure Activity Relationship)
benzyl alcohol 100-51-6	1,05	20 °C	EU Method A.8 (Partition Coefficient)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	-0,96	50 °C	EU Method A.8 (Partition Coefficient)
2,4,6-tris(dimethylaminomethyl)phenol 90-72-2	-0,66	21,5 °C	EPA OPPTS 830.7550 (Partition Coefficient, n-octanol / H2O, Shake Flask Method)
2,6-dimethylheptan-4-one 108-83-8	3,71	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	-2,65		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Bioconcentration factor (BCF)
No data available.

12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogKoc	pH	Method
benzyl alcohol 100-51-6	1,33		QSAR (Quantitative Structure Activity Relationship)

12.5. Results of PBT / vPvB / PMT / vPvM assessment

PBT/vPvB
This mixture does not contain any substances that are assessed to be a PBT or vPvB.
Based on available data, the classification criteria are not met.

PMT/vPvM
This mixture does not contain any substances that are assessed to be a PMT or vPvM.
Based on available data, the classification criteria are not met.

12.6. Endocrine disrupting properties

No substance data available.

No data available.

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
Do not empty into drains / surface water / ground water.
Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:
After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

08 04 09* waste adhesives and sealants containing organic solvents and other dangerous substances
The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information

14.1. UN number or ID number

ADR	1760
RID	1760
ADN	1760
IMDG	1760
IATA	1760

14.2. UN proper shipping name

ADR	CORROSIVE LIQUID, N.O.S. (Amines, polyethylenepoly-, triethylenetetramine fraction)
RID	CORROSIVE LIQUID, N.O.S. (Amines, polyethylenepoly-, triethylenetetramine fraction)
ADN	CORROSIVE LIQUID, N.O.S. (Amines, polyethylenepoly-, triethylenetetramine fraction)
IMDG	CORROSIVE LIQUID, N.O.S. (Amines, polyethylenepoly-, triethylenetetramine fraction)
IATA	Corrosive liquid, n.o.s. (Amines, polyethylenepoly-, triethylenetetramine fraction)

14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	not applicable
RID	not applicable

ADN	not applicable
IMDG	Marine Pollutant
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable

VOC content (2010/75/EC)	< 3 %
Seveso III (2012/18/EU):	E2, Hazardous to the Aquatic Environment in Category Chronic 2

National regulations/information (Germany):

WGK:	WGK 3: highly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	8B

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text
of all abbreviations indicated by codes in this safety data sheet are as follows:

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
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.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED:Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level
NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit

OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances
PBT: Persistent, bioaccumulative, toxic
PMT: Persistent, mobile and toxic
(Q)SAR: (Quantitative) structure–activity relationship
REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet
STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
vPvM: Very persistent and very mobile
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

Further information:

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