



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

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Loctite 3423A Kit component

SDS No. : 204375  
V009.1

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

#### 1.1. Product identifier

Loctite 3423A Kit component

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

Intended use:  
Epoxy adhesive

#### 1.3. Details of the supplier of the safety data sheet

Henkel Ltd  
Wood Lane End  
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000  
Fax-no.: +44 1442 278071

ua-productsafety.uk@henkel.com

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (CLP):

Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
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

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700)

Bisphenol-F epichlorhydrin resin; MW<700  
Castor oil, polymer with bisphenol A and epichlorhydrin

Bisphenol A diglycidyl ether polymer  
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether  
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

RP Bisphenol F-epichlorhydrin resin, MW<=700

**Signal word:**

Warning

**Hazard statement:**

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statement:  
Prevention**

P273 Avoid release to the environment.  
P280 Wear protective gloves.

**Precautionary statement:  
Response**

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P337+P313 If eye irritation persists: Get medical advice/attention.

**2.3. Other hazards**

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****General chemical description:**

Epoxy resin

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	01-2119456619-26	10- 20 %	Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 Aquatic Chronic 2 H411
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	01-2119454392-40	10- 20 %	Skin Irrit. 2; Dermal H315 Skin Sens. 1A H317 Aquatic Chronic 2 H411
Castor oil, polymer with bisphenol A and epichlorhydrin 68513-59-7		10- 20 %	Eye Irrit. 2 H319 Skin Irrit. 2 H315 Skin Sens. 1 H317
Bisphenol A diglycidyl ether polymer 25085-99-8		1- < 3 %	Eye Irrit. 2 H319 Skin Irrit. 2 H315 Skin Sens. 1 H317 Aquatic Chronic 2 H411
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	221-453-2 01-2119959496-20	1- < 3 %	Skin Sens. 1 H317 Aquatic Chronic 2 H411
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	271-846-8 01-2119485289-22	1- < 3 %	Skin Irrit. 2 H315 Skin Sens. 1 H317
RP Bisphenol F-epichlorhydrin resin, MW≤700 28064-14-4		0,1- < 1 %	Skin Irrit. 2 H315 Skin Sens. 1A H317 Eye Irrit. 2 H319 Aquatic Chronic 2 H411

**For full text of the H - statements and other abbreviations see section 16 "Other information".  
Substances without classification may have community workplace exposure limits available.**

**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: Redness, inflammation.

SKIN: Rash, Urticaria.

EYE: Irritation, conjunctivitis.

**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:**

Carbon dioxide, foam, powder

**Extinguishing media which must not be used for safety reasons:**

None known

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

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) 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.

**6.2. Environmental precautions**

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

**6.3. Methods and material for containment and cleaning up**

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.

Wash spillage site thoroughly with soap and water or detergent solution.

Dispose of contaminated material as waste according to Section 13.

**6.4. Reference to other sections**

See advice in section 8

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Use only in well-ventilated areas.

Avoid skin and eye contact.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

See advice in section 8

**Hygiene measures:**

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in a cool, well-ventilated place.

Refer to Technical Data Sheet

**7.3. Specific end use(s)**

Epoxy adhesive

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for  
Great Britain

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Mica 12001-26-2 [MICA, RESPIRABLE]		0,8	Time Weighted Average (TWA):		EH40 WEL
Mica 12001-26-2 [MICA, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL

Valid for  
EEC MSDS-States**Occupational Exposure Limits**Valid for  
Ireland

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Mica 12001-26-2 [MICA (RESPIRABLE FRACTION)]		3	Time Weighted Average (TWA):		IR_OEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, TOTAL INHALABLE DUST]		6	Time Weighted Average (TWA):		IR_OEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		IR_OEL

Valid for  
EEC MSDS-States

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	aqua (freshwater)		0,006 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	aqua (marine water)		0,001 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	sewage treatment plant (STP)		10 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	sediment (freshwater)				0,341 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	sediment (marine water)				0,034 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Soil				0,065 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	oral				11 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	aqua (intermittent releases)		0,018 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	marine water - intermittent		0,002 mg/l				
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	aqua (freshwater)		0,003 mg/l				
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	aqua (marine water)		0,0003 mg/l				
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	sewage treatment plant (STP)		10 mg/l				
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	sediment (freshwater)				0,294 mg/kg		
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	sediment (marine water)				0,0294 mg/kg		
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Soil				0,237 mg/kg		
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	aqua (intermittent releases)		0,0254 mg/l				
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Air						no hazard identified
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Predator						no potential for bioaccumulation
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	aqua (freshwater)		0,0075 mg/l				
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	aqua (marine water)		0,00075 mg/l				
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	sewage treatment plant (STP)		100 mg/l				

p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	sediment (freshwater)				33,54 mg/kg		
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	sediment (marine water)				3,354 mg/kg		
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Soil				11,4 mg/kg		
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	aqua (freshwater)		0,106 mg/l				
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	aqua (intermittent releases)		0,072 mg/l				
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	aqua (marine water)		0,011 mg/l				
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	sewage treatment plant (STP)		10 mg/l				
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	sediment (freshwater)				307,16 mg/kg		
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	sediment (marine water)				30,72 mg/kg		
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	Soil				1,234 mg/kg		

**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	dermal	Acute/short term exposure - systemic effects		8,33 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	Inhalation	Acute/short term exposure - systemic effects		12,25 mg/m3	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	dermal	Long term exposure - systemic effects		8,33 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	Inhalation	Long term exposure - systemic effects		12,25 mg/m3	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	dermal	Acute/short term exposure - systemic effects		3,571 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	dermal	Long term exposure - systemic effects		3,571 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	oral	Acute/short term exposure - systemic effects		0,75 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	oral	Long term exposure - systemic effects		0,75 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	inhalation	Acute/short term exposure - systemic effects		0,75 mg/m3	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	inhalation	Long term exposure - systemic effects		0,75 mg/m3	
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Workers	dermal	Long term exposure - systemic effects		104,15 mg/kg	no hazard identified
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Workers	Inhalation	Long term exposure - systemic effects		29,39 mg/m3	no hazard identified
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	General population	dermal	Long term exposure - systemic effects		62,5 mg/kg	no hazard identified
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	General population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	no hazard identified
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	General population	oral	Long term exposure - systemic effects		6,25 mg/kg	no hazard identified
Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Workers	dermal	Acute/short term exposure - local effects		8,3 µg/cm2	no hazard identified
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Workers	inhalation	Long term exposure - systemic effects		19,6 mg/m3	
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Workers	inhalation	Acute/short term exposure - systemic effects		19,6 mg/m3	
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Workers	inhalation	Acute/short term exposure - local effects		19,6 mg/m3	
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Workers	inhalation	Long term exposure - local effects		19,6 mg/m3	
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Workers	dermal	Long term exposure - systemic effects		5,6 mg/kg	
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Workers	Inhalation	Long term exposure -		3,6 mg/m3	



68609-97-2			systemic effects			
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	Workers	dermal	Long term exposure - systemic effects		1 mg/kg	
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	General population	Inhalation	Long term exposure - systemic effects		0,87 mg/m3	
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	General population	dermal	Long term exposure - systemic effects		0,5 mg/kg	
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	

**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 &gt; 30 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq$  0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to &gt; 480 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq$  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**

Appearance

paste

grey

Odor

mild

Odour threshold

No data available / Not applicable

pH	6
( )	
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	200 °C (392 °F)
Flash point	> 200 °C (> 392 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	0,001 mbar
(50 °C (122 °F))	
Relative vapour density:	No data available / Not applicable
Density	1,36 g/cm <sup>3</sup>
( )	
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative)	Insoluble
(Solvent: Water)	
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

**9.2. Other information**

No data available / Not applicable

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

None if used properly.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

No decomposition if used according to specifications.

**10.5. Incompatible materials**

None if used properly.

**10.6. Hazardous decomposition products**

carbon oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rat	not specified
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	LD50	> 2.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	LD50	26.800 mg/kg	rat	not specified
RP Bisphenol F-epichlorhydrin resin, MW≤700 28064-14-4	LD50	> 5.000 mg/kg	rat	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.

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rabbit	not specified
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	LD50	> 4.000 mg/kg	rabbit	not specified
RP Bisphenol F-epichlorhydrin resin, MW≤700 28064-14-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

No data available.

**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
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	moderately irritating	24 h	rabbit	Draize Test
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
p-tert-Butylphenyl 1-(2,3- epoxy)propyl ether 3101-60-8	not irritating	24 h	rat	other guideline:
oxirane, mono[(C12-14- alkyloxy)methyl] derivs. 68609-97-2	moderately irritating	24 h	rabbit	EPA OTS 798.4470 (Acute Dermal Irritation)
RP Bisphenol F- epichlorhydrin resin, MW≤700 28064-14-4	irritating	4 h	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
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
p-tert-Butylphenyl 1-(2,3- epoxy)propyl ether 3101-60-8	not irritating	72 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
oxirane, mono[(C12-14- alkyloxy)methyl] derivs. 68609-97-2	slightly irritating		rabbit	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.

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Test type</b>	<b>Species</b>	<b>Method</b>
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
p-tert-Butylphenyl 1-(2,3- epoxy)propyl ether 3101-60-8	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
oxirane, mono[(C12-14- alkyloxy)methyl] derivs. 68609-97-2	sensitising	Buehler test	guinea pig	EPA OPPTS 870.2600 (Skin Sensitisation)
RP Bisphenol F- epichlorhydrin resin, MW≤700 28064-14-4	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

**Germ cell mutagenicity:**

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
RP Bisphenol F-epichlorohydrin resin, MW≤700 28064-14-4	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	negative	oral: gavage		mouse	not specified
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	negative	oral: gavage		rat	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
RP Bisphenol F-epichlorohydrin resin, MW≤700 28064-14-4	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
RP Bisphenol F-epichlorohydrin resin, MW≤700 28064-14-4	negative	oral: gavage		rat	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)

**Carcinogenicity**

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not carcinogenic	dermal	2 y daily	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not carcinogenic	oral: gavage	2 y daily	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

**Reproductive toxicity:**

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700) 25068-38-6	NOAEL P $\geq$ 50 mg/kg NOAEL F1 $\geq$ 750 mg/kg NOAEL F2 $\geq$ 750 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
Bisphenol-F epichlorhydrin resin; MW $<$ 700 9003-36-5	NOAEL P $>$ 750 mg/kg NOAEL F1 750 mg/kg NOAEL F2 750 mg/kg	two-generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
RP Bisphenol F-epichlorohydrin resin, MW $\leq$ 700 28064-14-4	NOAEL P $>$ 750 mg/kg NOAEL F1 750 mg/kg NOAEL F2 750 mg/kg	two-generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

**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
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700) 25068-38-6	NOAEL 50 mg/kg	oral: gavage	14 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Bisphenol-F epichlorhydrin resin; MW $<$ 700 9003-36-5	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	NOAEL $\geq$ 1 mg/kg	oral: gavage	13 w 5 d/w	rat	OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
RP Bisphenol F-epichlorohydrin resin, MW $\leq$ 700 28064-14-4	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

**Aspiration hazard:**

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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LC50	1,75 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LC50	5,7 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	LC50	2 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	LC50	7,5 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	LC50	> 1 - 10 mg/l	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)
RP Bisphenol F-epichlorhydrin resin, MW≤700 28064-14-4	LC50	5,7 mg/l	96 h	Ide, silver or golden orfe (Leuciscus idus)	OECD Guideline 203 (Fish, Acute Toxicity Test)

#### Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	1,7 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	2,55 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	EC50	67,9 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	EC50	> 1 - 10 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
RP Bisphenol F-epichlorhydrin resin, MW≤700 28064-14-4	EC50	3,5 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

#### Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)



25068-38-6					
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
RP Bisphenol F-epichlorhydrin resin, MW<=700 28064-14-4	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

### Toxicity (Algae):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	> 11 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOEC	4,2 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	1,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	> 11 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	NOEC	4,2 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	EC50	9 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
RP Bisphenol F-epichlorhydrin resin, MW<=700 28064-14-4	EC50	9,4 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

### Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	EC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
RP Bisphenol F-epichlorhydrin resin, MW<=700 28064-14-4	IC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

### 12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	not readily biodegradable.	aerobic	1,1 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	readily biodegradable	aerobic	87 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
RP Bisphenol F-epichlorohydrin resin, MW≤700 28064-14-4	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

### 12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
RP Bisphenol F-epichlorohydrin resin, MW≤700 28064-14-4	31			not specified	not specified

### 12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	3,242	25 °C	EU Method A.8 (Partition Coefficient)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	2,7 - 3,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	3,59	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
RP Bisphenol F-epichlorohydrin resin, MW≤700 28064-14-4	3,242		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

### 12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether 3101-60-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 68609-97-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

### 12.6. Other adverse effects

No data available.

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**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Product disposal:

Dispose of in accordance with local and national regulations.

Collection and delivery to recycling enterprise or other registered elimination institution.

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.

Disposal must be made according to official regulations.

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.

<b>SECTION 14: Transport information</b>
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**14.1. UN number**

ADR	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

**14.2. UN proper shipping name**

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
IATA	Environmentally hazardous substance, liquid, n.o.s. (Epoxy resin)

**14.3. Transport hazard class(es)**

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

**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:
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), 197 (IATA), 969 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC content < 3,00 %  
(2010/75/EC)

**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:

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.

**Further information:**

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel's Product Safety and Regulatory Affairs Department (ua-productsafety.de@henkel.com) prior to export to other territories than the European Union.

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Dear Customer,

Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your\_company.com).

**Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.**



## Safety Data Sheet according to Regulation (EC) No 1907/2006

Page 1 of 24

Loctite 3423B Kit component

SDS No. : 204376  
V010.0

Revision: 26.02.2018

printing date: 06.05.2020

Replaces version from: 10.01.2018

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

#### 1.1. Product identifier

Loctite 3423B Kit component

#### Contains:

C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer  
4,4'-Isopropylidenediphenol  
Diethylenetriamine  
2-Piperazin-1-ylethylamine  
Triethylenetetramine

#### 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 Ltd  
Wood Lane End  
HP2 4RQ Hemel Hempstead  
  
Great Britain

Phone: +44 1442 278000  
Fax-no.: +44 1442 278071

ua-productsafety.uk@henkel.com

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

### SECTION 2: Hazards identification


#### 2.1. Classification of the substance or mixture

##### Classification (CLP):

Acute toxicity	Category 4
H332 Harmful if inhaled. Route of Exposure: Inhalation	
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.	
<b>Toxic to reproduction</b>	<b>Category 1B</b>
<b>H360F May damage fertility.</b>	
Chronic hazards to the aquatic environment	Category 2
H411 Toxic to aquatic life with long lasting effects.	

**2.2. Label elements**

**Label elements (CLP):**

<b>Hazard pictogram:</b>	
<b>Signal word:</b>	Danger
<b>Hazard statement:</b>	H360F May damage fertility. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H332 Harmful if inhaled. H411 Toxic to aquatic life with long lasting effects.
<b>Supplemental information</b>	Restricted to professional users.
<b>Precautionary statement: Prevention</b>	P201 Obtain special instructions before use. P261 Avoid breathing vapours. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary statement: Response</b>	P308+P313 IF exposed or concerned: Get medical advice/attention. 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.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**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 Number REACH-Reg No.	content	Classification
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	500-191-5 01-2119972320-44	25- 50 %	Skin Irrit. 2 H315 Eye Dam. 1 H318 Skin Sens. 1 H317 Aquatic Chronic 2 H411
4,4'-Isopropylidenediphenol 80-05-7	201-245-8 01-2119457856-23	1- < 5 %	Aquatic Chronic 2 H411 Eye Dam. 1 H318 Skin Sens. 1 H317 STOT SE 3 H335 Repr. 1B H360F ===== EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC) EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC)
Diethylenetriamine 111-40-0	203-865-4 01-2119473793-27 01-2119969287-21	1- < 5 %	Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Corr. 1B H314 Skin Sens. 1 H317 Acute Tox. 2; Inhalation H330 STOT SE 3 H335
2-Piperazin-1-ylethylamine 140-31-8	205-411-0 01-2119471486-30	1- < 3 %	Acute Tox. 3; Dermal H311 Acute Tox. 4; Oral H302 Skin Corr. 1B H314 Aquatic Chronic 3 H412 Skin Sens. 1 H317 Repr. 2 H361
Triethylenetetramine 112-24-3	203-950-6 01-2119487919-13	1- < 3 %	Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Sens. 1 H317 Skin Corr. 1B H314 Aquatic Chronic 3 H412
Nonylphenol, branched 84852-15-3	284-325-5 01-2119510715-45	0,25- < 2,5 %	Repr. 2 H361fd Acute Tox. 4; Oral H302 Skin Corr. 1B H314 Aquatic Acute 1 H400 Aquatic Chronic 1 H410 ===== EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC) M factor (Acute Aquat Tox): 10



Benzyldimethylamine 103-83-3	203-149-1 01-2119529232-48	0,1- < 1 %	Acute Tox. 4 H312 Skin Corr. 1B H314 Flam. Liq. 3 H226 Aquatic Chronic 2 H411 Acute Tox. 4 H302 Acute Tox. 3 H331
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**For full text of the H - statements and other abbreviations see section 16 "Other information".  
Substances without classification may have community workplace exposure limits available.**

## 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

Causes burns.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

SKIN: Rash, Urticaria.

### 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:**

Carbon dioxide, foam, powder

**Extinguishing media which must not be used for safety reasons:**

None known

### 5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) 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.  
Ensure adequate ventilation.  
Wear protective equipment.

**6.2. Environmental precautions**

Do not let product enter drains.

**6.3. Methods and material for containment and cleaning up**

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.  
Wash spillage site thoroughly with soap and water or detergent solution.

**6.4. Reference to other sections**

See advice in section 8

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Use only in well-ventilated areas.  
Avoid skin and eye contact.  
Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.  
See advice in section 8

Hygiene measures:

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

**7.2. Conditions for safe storage, including any incompatibilities**

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  
Great Britain

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Ethene, homopolymer 9002-88-4 [DUST, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Ethene, homopolymer 9002-88-4 [DUST, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
4,4'-Isopropylidenediphenol 80-05-7 [BISPHENOL A, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
4,4'-Isopropylidenediphenol 80-05-7 [BISPHENOL A (4,4'-ISOPROPYLIDENEDIPHENOL) (INHALABLE FRACTION)]		2	Time Weighted Average (TWA):	Indicative	ECTLV
2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]	1	4,3	Time Weighted Average (TWA):		EH40 WEL

#### Occupational Exposure Limits

Valid for  
Ireland

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Ethene, homopolymer 9002-88-4 [DUSTS, NON-SPECIFIC, RESPIRABLE]		4	Time Weighted Average (TWA):		IR_OEL
Ethene, homopolymer 9002-88-4 [DUSTS, NON-SPECIFIC, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		IR_OEL
4,4'-Isopropylidenediphenol 80-05-7 [BISPHENOL A (4,4'-ISOPROPYLIDENEDIPHENOL) (INHALABLE DUST)]		10	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
4,4'-Isopropylidenediphenol 80-05-7 [BISPHENOL A (4,4'-ISOPROPYLIDENEDIPHENOL) (INHALABLE FRACTION)]		2	Time Weighted Average (TWA):	Indicative	ECTLV
2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]	1	4	Time Weighted Average (TWA):		IR_OEL
2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]			Skin designation:	Can be absorbed through the skin.	IR_OEL

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (freshwater)		0,00434 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (marine water)		0,00043 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (intermittent releases)		0,0434 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sewage treatment plant (STP)		3,84 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sediment (freshwater)				434,02 mg/kg		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sediment (marine water)				43,4 mg/kg		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	soil				86,78 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	aqua (freshwater)		0,018 mg/l				
4,4'-Isopropylidenediphenol 80-05-7	aqua (marine water)		0,018 mg/l				
4,4'-Isopropylidenediphenol 80-05-7	aqua (intermittent releases)		0,011 mg/l				
4,4'-Isopropylidenediphenol 80-05-7	sewage treatment plant (STP)		320 mg/l				
4,4'-Isopropylidenediphenol 80-05-7	sediment (freshwater)				1,2 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	sediment (marine water)				0,24 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	soil				3,7 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	oral				13,8 mg/kg		
4,4'-Isopropylidenediphenol 80-05-7	Air						
4,4'-Isopropylidenediphenol 80-05-7	Predator						
2,2'-Iminodi(ethylamine) 111-40-0	aqua (freshwater)		0,56 mg/l				
2,2'-Iminodi(ethylamine) 111-40-0	aqua (marine water)		0,056 mg/l				
2,2'-Iminodi(ethylamine) 111-40-0	aqua (intermittent releases)		0,32 mg/l				
2,2'-Iminodi(ethylamine) 111-40-0	sediment (freshwater)				1072 mg/kg		
2,2'-Iminodi(ethylamine) 111-40-0	sediment (marine water)				107,2 mg/kg		
2,2'-Iminodi(ethylamine) 111-40-0	sewage treatment plant (STP)		6 mg/l				
2,2'-Iminodi(ethylamine) 111-40-0	soil				7,97 mg/kg		
2,2'-Iminodi(ethylamine) 111-40-0	Air						
2-Piperazin-1-ylethylamine 140-31-8	aqua (freshwater)		0,058 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	aqua (marine water)		0,0058 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	sediment (freshwater)				215 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	sediment (marine water)				21,5 mg/kg		

2-Piperazin-1-ylethylamine 140-31-8	soil			42,9 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	sewage treatment plant (STP)		250 mg/l			
2-Piperazin-1-ylethylamine 140-31-8	aqua (intermittent releases)		0,58 mg/l			
Trientine 112-24-3	aqua (freshwater)		0,19 mg/l			
Trientine 112-24-3	aqua (marine water)		0,038 mg/l			
Trientine 112-24-3	sediment (freshwater)			95,9 mg/kg		
Trientine 112-24-3	sediment (marine water)			19,2 mg/kg		
Trientine 112-24-3	soil			19,1 mg/kg		
Trientine 112-24-3	aqua (intermittent releases)		0,2 mg/l			
Trientine 112-24-3	Sewage treatment plant		4,25 mg/l			
Trientine 112-24-3	oral			0,18 mg/kg		
4-Nonylphenol, branched 84852-15-3	aqua (freshwater)		0,000614 mg/l			
4-Nonylphenol, branched 84852-15-3	aqua (marine water)		0,000527 mg/l			
4-Nonylphenol, branched 84852-15-3	aqua (intermittent releases)		0,00017 mg/l			
4-Nonylphenol, branched 84852-15-3	sewage treatment plant (STP)		9,5 mg/l			
4-Nonylphenol, branched 84852-15-3	sediment (freshwater)			4,62 mg/kg		
4-Nonylphenol, branched 84852-15-3	sediment (marine water)			1,23 mg/kg		
4-Nonylphenol, branched 84852-15-3	soil			2,3 mg/kg		
4-Nonylphenol, branched 84852-15-3	oral			2,36 mg/kg		
Benzyl dimethylamine 103-83-3	aqua (freshwater)		0,0048 mg/l			
Benzyl dimethylamine 103-83-3	aqua (marine water)		0,00048 mg/l			
Benzyl dimethylamine 103-83-3	aqua (intermittent releases)		0,0134 mg/l			
Benzyl dimethylamine 103-83-3	sewage treatment plant (STP)		534 mg/l			
Benzyl dimethylamine 103-83-3	sediment (freshwater)			0,071 mg/kg		
Benzyl dimethylamine 103-83-3	sediment (marine water)			0,0071 mg/kg		
Benzyl dimethylamine 103-83-3	soil			0,0114 mg/kg		

**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Workers	inhalation	Long term exposure - systemic effects		3,9 mg/m <sup>3</sup>	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Workers	dermal	Long term exposure - systemic effects		1,1 mg/kg	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	inhalation	Long term exposure - systemic effects		0,97 mg/m <sup>3</sup>	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	dermal	Long term exposure - systemic effects		0,56 mg/kg	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	oral	Long term exposure - systemic effects		0,56 mg/kg	
4,4'-Isopropylidenediphenol 80-05-7	Workers	dermal	Acute/short term exposure - systemic effects		0,031 mg/kg	
4,4'-Isopropylidenediphenol 80-05-7	Workers	dermal	Long term exposure - systemic effects		0,031 mg/kg	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Inhalation	Acute/short term exposure - systemic effects		2 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	Workers	Inhalation	Long term exposure - systemic effects		2 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	General population	dermal	Long term exposure - systemic effects		0,002 mg/kg	
4,4'-Isopropylidenediphenol 80-05-7	General population	Inhalation	Long term exposure - systemic effects		1 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	Workers	inhalation	Long term exposure - local effects		2 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	Workers	inhalation	Acute/short term exposure - local effects		2 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	General population	inhalation	Acute/short term exposure - systemic effects		1 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	General population	inhalation	Long term exposure - local effects		1 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	General population	inhalation	Acute/short term exposure - local effects		1 mg/m <sup>3</sup>	
4,4'-Isopropylidenediphenol 80-05-7	General population	dermal	Acute/short term exposure - systemic effects		0,002 mg/kg	
4,4'-Isopropylidenediphenol 80-05-7	General population	oral	Long term exposure - systemic effects		0,004 mg/kg	
4,4'-Isopropylidenediphenol 80-05-7	General population	oral	Acute/short term exposure - systemic effects		0,004 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	dermal	Long term exposure - systemic effects		11,4 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	dermal	Long term exposure - local effects		1,1 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Acute/short term exposure - systemic effects		92,1 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Acute/short term exposure - local effects		2,6 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Long term exposure -		15,4 mg/m <sup>3</sup>	

			systemic effects			
2,2'-Iminodi(ethylamine) 111-40-0	Workers	Inhalation	Long term exposure - local effects		0,87 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	General population	dermal	Acute/short term exposure - local effects		4,88 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	General population	Inhalation	Acute/short term exposure - systemic effects		27,5 mg/m <sup>3</sup>	
2,2'-Iminodi(ethylamine) 111-40-0	General population	dermal	Long term exposure - systemic effects		4,88 mg/kg	
2,2'-Iminodi(ethylamine) 111-40-0	General population	Inhalation	Long term exposure - systemic effects		4,6 mg/m <sup>3</sup>	
2-Piperazin-1-ylethylamine 140-31-8	Workers	dermal	Acute/short term exposure - systemic effects		20 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	Workers	Inhalation	Acute/short term exposure - systemic effects		10,6 mg/m <sup>3</sup>	
2-Piperazin-1-ylethylamine 140-31-8	Workers	dermal	Acute/short term exposure - local effects		0,04 mg/cm <sup>2</sup>	
2-Piperazin-1-ylethylamine 140-31-8	Workers	dermal	Long term exposure - systemic effects		3,3 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	Workers	Inhalation	Long term exposure - systemic effects		10,6 mg/m <sup>3</sup>	
2-Piperazin-1-ylethylamine 140-31-8	Workers	dermal	Long term exposure - local effects		0,006 mg/cm <sup>2</sup>	
2-Piperazin-1-ylethylamine 140-31-8	General population	dermal	Acute/short term exposure - systemic effects		10 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	General population	Inhalation	Acute/short term exposure - systemic effects		5,3 mg/m <sup>3</sup>	
2-Piperazin-1-ylethylamine 140-31-8	General population	oral	Acute/short term exposure - systemic effects		1,5 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	General population	oral	Acute/short term exposure - local effects		0,02 mg/cm <sup>2</sup>	
2-Piperazin-1-ylethylamine 140-31-8	General population	dermal	Long term exposure - systemic effects		1,7 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	General population	Inhalation	Long term exposure - systemic effects		0,9 mg/m <sup>3</sup>	
2-Piperazin-1-ylethylamine 140-31-8	General population	oral	Long term exposure - systemic effects		0,3 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	General population	dermal	Long term exposure - local effects		0,003 mg/cm <sup>2</sup>	
Trientine 112-24-3	General population	inhalation	Long term exposure - systemic effects		0,29 mg/m <sup>3</sup>	
Trientine 112-24-3	General population	dermal	Long term exposure - systemic effects		0,25 mg/kg	
Trientine 112-24-3	Workers	dermal	Long term exposure - local effects		0,028 mg/cm <sup>2</sup>	
Trientine 112-24-3	Workers	dermal	Long term exposure - systemic effects		0,57 mg/kg	
Trientine 112-24-3	Workers	inhalation	Acute/short term exposure - systemic effects		5380 mg/m <sup>3</sup>	
Trientine 112-24-3	General population	inhalation	Acute/short term exposure - systemic effects		1600 mg/m <sup>3</sup>	

Trientine 112-24-3	General population	dermal	Acute/short term exposure - systemic effects	8 mg/kg	
Trientine 112-24-3	General population	dermal	Long term exposure - local effects	0,43 mg/cm <sup>2</sup>	
Trientine 112-24-3	General population	dermal	Acute/short term exposure - local effects	1 mg/cm <sup>2</sup>	
Trientine 112-24-3	General population	oral	Long term exposure - systemic effects	0,41 mg/kg	
Trientine 112-24-3	General population	oral	Acute/short term exposure - systemic effects	20 mg/kg	
Trientine 112-24-3	Workers	inhalation	Long term exposure - systemic effects	1 mg/m <sup>3</sup>	
4-Nonylphenol, branched 84852-15-3	Workers	dermal	Acute/short term exposure - systemic effects	15 mg/kg	
4-Nonylphenol, branched 84852-15-3	Workers	Inhalation	Acute/short term exposure - systemic effects	1 mg/m <sup>3</sup>	
4-Nonylphenol, branched 84852-15-3	Workers	dermal	Long term exposure - systemic effects	7,5 mg/kg	
4-Nonylphenol, branched 84852-15-3	Workers	Inhalation	Long term exposure - systemic effects	0,5 mg/m <sup>3</sup>	
4-Nonylphenol, branched 84852-15-3	General population	dermal	Acute/short term exposure - systemic effects	7,6 mg/kg	
4-Nonylphenol, branched 84852-15-3	General population	Inhalation	Acute/short term exposure - systemic effects	0,8 mg/m <sup>3</sup>	
4-Nonylphenol, branched 84852-15-3	General population	oral	Acute/short term exposure - systemic effects	0,4 mg/kg	
4-Nonylphenol, branched 84852-15-3	General population	dermal	Long term exposure - systemic effects	3,8 mg/kg	
4-Nonylphenol, branched 84852-15-3	General population	Inhalation	Long term exposure - systemic effects	0,4 mg/m <sup>3</sup>	
4-Nonylphenol, branched 84852-15-3	General population	oral	Long term exposure - systemic effects	0,08 mg/kg	
Benzyl dimethylamine 103-83-3	Workers	dermal	Long term exposure - systemic effects	2,3 mg/kg	
Benzyl dimethylamine 103-83-3	Workers	inhalation	Long term exposure - systemic effects	14,6 mg/m <sup>3</sup>	
Benzyl dimethylamine 103-83-3	Workers	inhalation	Long term exposure - local effects	1 mg/m <sup>3</sup>	
Benzyl dimethylamine 103-83-3	General population	dermal	Long term exposure - systemic effects	1,25 mg/kg	
Benzyl dimethylamine 103-83-3	General population	oral	Long term exposure - systemic effects	1,25 mg/kg	
Benzyl dimethylamine 103-83-3	General population	inhalation	Long term exposure - systemic effects	43,75 mg/m <sup>3</sup>	



**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**

Appearance	paste beige
Odor	amine-like
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	> 200 °C (> 392 °F)
Flash point	124 °C (255.2 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure (50 °C (122 °F))	0,04 mbar
Relative vapour density:	No data available / Not applicable
Density ( )	1 g/cm <sup>3</sup>

Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

## 9.2. Other information

No data available / Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reaction with strong acids.  
Reacts with strong oxidants.

### 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.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
4,4'- Isopropylidenediphenol 80-05-7	LD50	> 2.000 - < 5.000 mg/kg		
4,4'- Isopropylidenediphenol 80-05-7	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
Diethylenetriamine 111-40-0	LD50	1.553 mg/kg	rat	not specified
Triethylenetetramine 112-24-3	LD50	1.591 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Nonylphenol, branched 84852-15-3	LD50	1.412 mg/kg	rat	not specified
Benzyltrimethylamine 103-83-3	LD50	579 mg/kg	rat	not specified

**Acute dermal toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
4,4'- Isopropylidenediphenol 80-05-7	LD50	3.600 mg/kg	rabbit	not specified
Diethylenetriamine 111-40-0	LD50	1.045 mg/kg	rabbit	not specified
2-Piperazin-1- ylethylamine 140-31-8	LD50	866 mg/kg	rabbit	Draize Test
Triethylenetetramine 112-24-3	LD50	1.465 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Nonylphenol, branched 84852-15-3	LD50	> 2.000 mg/kg	rabbit	not specified

**Acute inhalative toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Diethylenetriamine 111-40-0	NOEL	0,07 mg/l			rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Diethylenetriamine 111-40-0	Acute toxicity estimate (ATE)	0,07 mg/l	dust/mist			Expert judgement
Benzyl dimethylamine 103-83-3	LC50	2,052 mg/l		4 h	rat	not specified

**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
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	irritating		In vitro	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Diethylenetriamine 111-40-0	corrosive	15 min	rabbit	BASF Test
2-Piperazin-1- ylethylamine 140-31-8	corrosive	20 min	rabbit	not specified
Triethylenetetramine 112-24-3	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Nonylphenol, branched 84852-15-3	Category 1B (corrosive)	4 h	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
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Diethylenetriamine 111-40-0	corrosive	30 s	rabbit	not specified

**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
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
4,4'-Isopropylidenediphenol 80-05-7	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 406 (Skin Sensitisation)
Diethylenetriamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2-Piperazin-1-ylethylamine 140-31-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Triethylenetetramine 112-24-3	sensitising	Buehler test	guinea pig	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.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
4,4'- Isopropylidenediphenol 80-05-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
Diethylenetriamine 111-40-0	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diethylenetriamine 111-40-0	negative	in vitro mammalian chromosome aberration test	with and without		Chromosome Aberration Test
2-Piperazin-1- ylethylamine 140-31-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-Piperazin-1- ylethylamine 140-31-8	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without		not specified
2-Piperazin-1- ylethylamine 140-31-8	negative	mammalian cell gene mutation assay	with and without		not specified
Triethylenetetramine 112-24-3	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Triethylenetetramine 112-24-3	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without		OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)

**Carcinogenicity**

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Diethylenetriamine 111-40-0	not carcinogenic	dermal	lifetime (appr. 587 d) 3 d/w	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

**Reproductive toxicity:**

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
4,4'- Isopropylidenediphenol 80-05-7	NOAEL P 300 ppm		oral: feed	mouse	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Diethylenetriamine 111-40-0	NOAEL P 100 mg/kg NOAEL F1 30 mg/kg	screening	oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
2-Piperazin-1- ylethylamine 140-31-8	NOAEL P 8000 ppm NOAEL F1 8000 ppm	screening	oral: drinking water	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

**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
Diethylenetriamine 111-40-0	NOAEL 70 - 80 mg/kg	oral: feed	90 d daily	rat	not specified
Diethylenetriamine 111-40-0	NOAEL 0,55 mg/l	inhalation: vapour	15 d 6 h/d	rat	not specified
2-Piperazin-1- ylethylamine 140-31-8	NOAEL 2000 ppm	oral: drinking water	>= 28 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Triethylenetetramine 112-24-3	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Triethylenetetramine 112-24-3	NOAEL 50 mg/kg	oral: gavage	26 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

**Aspiration hazard:**

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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	LC50	7,07 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
4,4'-Isopropylidenediphenol 80-05-7	LC50	4,6 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
4,4'-Isopropylidenediphenol 80-05-7	NOEC	0,016 mg/l	444 d	Pimephales promelas	EPA OPP 72-5 (Fish Life Cycle Toxicity)
Diethylenetriamine 111-40-0	LC50	430 mg/l	96 h	Poecilia reticulata	EU Method C.1 (Acute Toxicity for Fish)
Diethylenetriamine 111-40-0	NOEC	> 10 mg/l	28 d	Gasterosteus aculeatus	OECD Guideline 210 (fish early lite stage toxicity test)
2-Piperazin-1-ylethylamine 140-31-8	LC50	> 100 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Triethylenetetramine 112-24-3	LC50	570 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
Nonylphenol, branched 84852-15-3	LC50	0,135 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Nonylphenol, branched 84852-15-3	NOEC	0,25 mg/l	14 d	Leuciscus idus	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Nonylphenol, branched 84852-15-3	NOEC	0,006 mg/l	91 d	Oncorhynchus mykiss	OECD Guideline 210 (fish early lite stage toxicity test)
Benzylidimethylamine 103-83-3	LC50	37,8 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)

#### Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'-Isopropylidenediphenol 80-05-7	EC50	3,9 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diethylenetriamine 111-40-0	EC50	64,6 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
2-Piperazin-1-ylethylamine 140-31-8	EC50	32 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Triethylenetetramine 112-24-3	EC50	31 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Nonylphenol, branched 84852-15-3	EC50	0,035 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Benzylidimethylamine 103-83-3	EC50	> 100 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)

#### Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Isopropylidenediphenol	NOEC	0,17 mg/l	28 d	Americamysis bahia	EPA OPPTS 850.1350

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80-05-7					(Mysid Chronic Toxicity Test)
Diethylenetriamine 111-40-0	NOEC	5,6 mg/l	21 d	Daphnia magna	EU Method C.20 (Daphnia magna Reproduction Test)
Nonylphenol, branched 84852-15-3	NOEC	0,024 mg/l	21 d	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)
Benzyltrimethylamine 103-83-3	NOEC	0,789 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

**Toxicity (Algae):**



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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	EC50	4,34 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	NOEC	0,5 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-Isopropylidenediphenol 80-05-7	EC50	> 2,73 - 3,1 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-Isopropylidenediphenol 80-05-7	EC10	1,36 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	EC50	1.164 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	NOEC	10 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Piperazin-1-ylethylamine 140-31-8	NOEC	31 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Piperazin-1-ylethylamine 140-31-8	EC50	495 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Triethylenetetramine 112-24-3	EC10	< 2,5 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Triethylenetetramine 112-24-3	EC50	20 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Nonylphenol, branched 84852-15-3	EC50	0,0563 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Benzyl dimethylamine 103-83-3	EC50	1,34 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Benzyl dimethylamine 103-83-3	NOEC	0,24 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal Inhibition test)

#### Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	EC10	130 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
4,4'-Isopropylidenediphenol 80-05-7	EC10	> 320 mg/l	18 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Diethylenetriamine 111-40-0	NOEC	6 mg/l	3 h	anaerobic bacteria	not specified
2-Piperazin-1-ylethylamine 140-31-8	EC10	100 mg/l	17 h		not specified
Triethylenetetramine 112-24-3	EC0	137 mg/l	30 min		not specified
Nonylphenol, branched 84852-15-3	EC50		3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Benzyl dimethylamine 103-83-3	EC10	534 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)

**12.2. Persistence and degradability**

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	not readily biodegradable.	no data	0 - 60 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
4,4'-Isopropylidenediphenol 80-05-7	readily biodegradable	aerobic	89 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Diethylenetriamine 111-40-0	inherently biodegradable	aerobic	83 %	28 d	EU Method C.9 (Biodegradation: Zahn-Wellens Test)
Diethylenetriamine 111-40-0	readily biodegradable	aerobic	87 %	21 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
2-Piperazin-1-ylethylamine 140-31-8	under test conditions no biodegradation observed	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Triethylenetetramine 112-24-3		aerobic	0 %	162 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Triethylenetetramine 112-24-3	under test conditions no biodegradation observed	aerobic	0 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
Nonylphenol, branched 84852-15-3	readily biodegradable, but failing 10-day window	aerobic	62 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Benzyl dimethylamine 103-83-3	not readily biodegradable.	aerobic	0 - 2 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

**12.3. Bioaccumulative potential**

No data available for the product.

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
4,4'-Isopropylidenediphenol 80-05-7	5,1 - 67	42 d	25 °C	Cyprinus carpio	other guideline:
Diethylenetriamine 111-40-0	> 0,3 - < 6,3	42 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
Nonylphenol, branched 84852-15-3	231	14 d		Lepomis macrochirus	other guideline:
Benzyl dimethylamine 103-83-3	> 2,1 - 22	42 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

**12.4. Mobility in soil**

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	10,34		QSAR (Quantitative Structure Activity Relationship)
4,4'-Isopropylidenediphenol 80-05-7	3,4	21,5 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Diethylenetriamine 111-40-0	-1,58	20 °C	QSAR (Quantitative Structure Activity Relationship)
2-Piperazin-1-ylethylamine 140-31-8	-1,48		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Triethylenetetramine 112-24-3	-2,65		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Nonylphenol, branched 84852-15-3	5,4	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Benzylidimethylamine 103-83-3	1,98		EU Method A.8 (Partition Coefficient)

### 12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
4,4'-Isopropylidenediphenol 80-05-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diethylenetriamine 111-40-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-Piperazin-1-ylethylamine 140-31-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Triethylenetetramine 112-24-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Nonylphenol, branched 84852-15-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Benzylidimethylamine 103-83-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

### 12.6. Other adverse effects

No data available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product disposal:

Dispose of in accordance with local and national regulations.

Collection and delivery to recycling enterprise or other registered elimination institution.

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.

Disposal must be made according to official regulations.

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

ADR	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

### 14.2. UN proper shipping name

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylenetriamine,N-Aminoethylpiperazine)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylenetriamine,N-Aminoethylpiperazine)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylenetriamine,N-Aminoethylpiperazine)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylenetriamine,N-Aminoethylpiperazine,C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer)
IATA	Amines, liquid, corrosive, n.o.s. (Diethylenetriamine,N-Aminoethylpiperazine)

### 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	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
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. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

## SECTION 15: Regulatory information

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

VOC content < 3,00 % Combined A/B

(2010/75/EC)

#### 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 vapor.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- H360F May damage fertility.
- H361 Suspected of damaging fertility or the unborn child.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

#### Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

**Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.**