



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

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LOCTITE PC 7255 B GN 10KG EGFD

SDS No. : 431278  
V008.0

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

#### 1.1. Product identifier

LOCTITE PC 7255 B GN 10KG EGFD

#### 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 <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://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):

Acute toxicity H302 Harmful if swallowed. Route of Exposure: Oral	Category 4
Skin corrosion H314 Causes severe skin burns and eye damage.	Sub-category 1B
Serious eye damage H318 Causes serious eye damage.	Category 1
Skin sensitizer H317 May cause an allergic skin reaction.	Category 1
Specific target organ toxicity - repeated exposure H373 May cause damage to organs through prolonged or repeated exposure.	Category 2
Chronic hazards to the aquatic environment H411 Toxic to aquatic life with long lasting effects.	Category 2

#### 2.2. Label elements

##### Label elements (CLP):

**Hazard pictogram:**



**Contains**

4,4'-Methylenebis(cyclohexylamine)

Formaldehyde, polymer with benzenamine, hydrogenated benzyl alcohol

m-Phenylenebis(methylamine)

N-(3-(Trimethoxysilyl)propyl)ethylenediamine

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-, homopolymer

**Signal word:**

**Danger**

**Hazard statement:**

H302 Harmful if swallowed.  
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:  
Prevention**

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.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

**2.3. Other hazards**

None if used properly.

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

4-tert-butylphenol 98-54-4	ED
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**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.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
4,4'-Methylenebis(cyclohexylamine) 1761-71-3 217-168-8 01-2119541673-38 01-2119979542-27	25- 50 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT RE 2, Oral, H373 Eye Dam. 1, H318		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2 603-894-6 01-2119983522-33	5- 10 %	Acute Tox. 3, Oral, H301 Skin Corr. 1C, H314 STOT RE 2, H373 Aquatic Chronic 3, H412 Eye Dam. 1, H318 Skin Sens. 1, H317	dermal:ATE = > 2.000 mg/kg	
benzyl alcohol 100-51-6 202-859-9 01-2119492630-38	5- 10 %	Acute Tox. 4, Oral, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317	dermal:ATE = 2.500 mg/kg oral:ATE = 1.200 mg/kg	
m-Phenylenebis(methylamine) 1477-55-0 216-032-5 01-2119480150-50	1- < 3 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Skin Sens. 1B, H317 Acute Tox. 4, Inhalation, H332 Aquatic Chronic 3, H412 Eye Dam. 1, H318		
4-tert-butylphenol 98-54-4 202-679-0 01-2119489419-21	1- < 3 %	Eye Dam. 1, H318 Skin Irrit. 2, H315 Repr. 2, H361f Aquatic Chronic 1, H410	M chronic = 1	SVHC ED
N-(3-(Trimethoxysilyl)propyl)ethylene diamine 1760-24-3 217-164-6 01-2119970215-39	0,1- < 1 %	Skin Sens. 1A, H317 Eye Dam. 1, H318 Acute Tox. 4, Inhalation, H332 STOT RE 2, Inhalation, H373	inhalation:ATE = 1,49 mg/l;dust/mist	
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8 247-063-2 01-2119560598-25	0,1- < 1 %	Eye Dam. 1, H318 Skin Sens. 1A, H317 Skin Corr. 1A, H314 Acute Tox. 4, Oral, H302		
Salicylic acid 69-72-7 200-712-3 01-2119486984-17	0,1- < 1 %	Repr. 2, H361d Acute Tox. 4, Oral, H302 Eye Dam. 1, H318		
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5 229-962-1 01-2119497829-12	0,1- < 1 %	Acute Tox. 4, Oral, H302 Acute Tox. 3, Dermal, H311 Acute Tox. 2, Inhalation, H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Chronic 2, H411	dermal:ATE = 201 mg/kg oral:ATE = 320 mg/kg	
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-, homopolymer 29226-47-9	0,01- < 0,1 %	Skin Sens. 1A, H317 Eye Dam. 1, H318 Acute Tox. 4, Inhalation, H332 STOT RE 2, Inhalation, H373	inhalation:ATE = 1,49 mg/l;dust/mist	

**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

Causes burns.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

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:**

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 (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.

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.

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**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:

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

Good industrial hygiene practices should be observed.

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

Store in sealed original container.

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 <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Silicon carbide 409-21-2		10	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
Silicon carbide 409-21-2		1,25	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon carbide 409-21-2			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
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
Natural compound of quartz and kaolinite 1020665-14-8		4	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Kaolinite 1318-74-7 [ALLGEMEINER STAUBGRENZWERT]			Explanations and basis for exposure limits in the workplace air - Number:		TRGS 901
4-tert-Butylphenol 98-54-4	0,08	0,5	Exposure limit(s):	2	TRGS 900
4-tert-Butylphenol 98-54-4			Skin designation:	Can be absorbed through the skin.	TRGS 900
4-tert-Butylphenol 98-54-4			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Silicon dioxide 112926-00-8		4	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon dioxide 112926-00-8		10	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
Silicon dioxide 112926-00-8		1,25	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon dioxide 112926-00-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (intermittent releases)		0,08 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (freshwater)				136,6 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (marine water)		0,008 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (marine water)				13,7 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sewage treatment plant (STP)		3,2 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Soil				27,3 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (freshwater)		0,08 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (freshwater)		0,015 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (marine water)		0,002 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (intermittent releases)		0,15 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sewage treatment plant (STP)		1,9 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sediment (freshwater)				15 mg/kg		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sediment (marine water)				1,5 mg/kg		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Soil				1,8 mg/kg		
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 100-51-6	sediment (marine water)				0,527 mg/kg		
Benzyl alcohol 100-51-6	aqua (marine water)		0,1 mg/l				
Benzyl alcohol 100-51-6	aqua (intermittent releases)		2,3 mg/l				
Benzyl alcohol 100-51-6	aqua (freshwater)		1 mg/l				
Benzyl alcohol 100-51-6	Predator						no potential for bioaccumulation
m-Phenylenebis(methylamine) 1477-55-0	aqua (freshwater)		0,094 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	aqua (marine water)		0,009 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	Freshwater - intermittent		0,152 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	sewage treatment plant (STP)		10 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	sediment (freshwater)				12,4 mg/kg		
m-Phenylenebis(methylamine)	sediment				1,24 mg/kg		

1477-55-0	(marine water)					
m-Phenylenebis(methylamine) 1477-55-0	Soil				2,44 mg/kg	
4-tert-butylphenol 98-54-4	aqua (marine water)	0,001 mg/l				
4-tert-butylphenol 98-54-4	aqua (freshwater)	0,01 mg/l				
4-tert-butylphenol 98-54-4	Freshwater - intermittent	0,048 mg/l				
4-tert-butylphenol 98-54-4	sediment (marine water)				0,027 mg/kg	
4-tert-butylphenol 98-54-4	sediment (freshwater)				0,27 mg/kg	
4-tert-butylphenol 98-54-4	sewage treatment plant (STP)	1,5 mg/l				
4-tert-butylphenol 98-54-4	Soil				0,25 mg/kg	
4-tert-butylphenol 98-54-4	oral				46,67 mg/kg	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	aqua (freshwater)	0,05 mg/l				
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	aqua (marine water)	0,005 mg/l				
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Freshwater - intermittent	0,072 mg/l				
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	sediment (freshwater)				0,181 mg/kg	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	sediment (marine water)				0,018 mg/kg	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Soil				0,007 mg/kg	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	sewage treatment plant (STP)	20 mg/l				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	aqua (freshwater)	0,102 mg/l				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	aqua (marine water)	0,01 mg/l				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	sediment (freshwater)				0,622 mg/kg	
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	sediment (marine water)				0,062 mg/kg	
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Sewage treatment plant	72 mg/l				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Soil				10 mg/kg	
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Freshwater - intermittent	0,315 mg/l				
Salicylic acid 69-72-7	aqua (freshwater)	0,2 mg/l				
Salicylic acid 69-72-7	aqua (marine water)	0,02 mg/l				
Salicylic acid 69-72-7	aqua (intermittent releases)	1 mg/l				
Salicylic acid 69-72-7	sewage treatment plant (STP)	162 mg/l				
Salicylic acid 69-72-7	sediment (freshwater)				1,42 mg/kg	
Salicylic acid 69-72-7	sediment (marine water)				0,142 mg/kg	
Salicylic acid 69-72-7	Soil				0,166 mg/kg	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	aqua (freshwater)	0,1 mg/l				



6864-37-5						
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	aqua (marine water)		0,01 mg/l			
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	aqua (intermittent releases)		0,046 mg/l			
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	sewage treatment plant (STP)		1,6 mg/l			
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	sediment (freshwater)				4,34 mg/kg	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	sediment (marine water)				0,434 mg/kg	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	Soil				4,56 mg/kg	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	oral				0,556 mg/kg	

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Long term exposure - systemic effects		0,13 mg/m <sup>3</sup>	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - systemic effects		0,053 mg/kg	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Long term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Acute/short term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - local effects			
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	inhalation	Long term exposure - systemic effects		0,2 mg/m <sup>3</sup>	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	inhalation	Acute/short term exposure - systemic effects		2 mg/m <sup>3</sup>	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	dermal	Long term exposure - systemic effects		2 mg/kg	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	dermal	Acute/short term exposure - systemic effects		6 mg/kg	
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/m <sup>3</sup>	no potential for bioaccumulation
Benzyl alcohol 100-51-6	Workers	inhalation	Long term exposure - systemic effects		22 mg/m <sup>3</sup>	no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	inhalation	Acute/short term exposure - systemic effects		27 mg/m <sup>3</sup>	no potential for bioaccumulation
Benzyl alcohol 100-51-6	General population	inhalation	Long term exposure - systemic effects		5,4 mg/m <sup>3</sup>	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
m-Phenylenebis(methylamine) 1477-55-0	Workers	dermal	Long term exposure - systemic effects		0,33 mg/kg	
m-Phenylenebis(methylamine) 1477-55-0	Workers	inhalation	Long term exposure - systemic effects		1,2 mg/m <sup>3</sup>	
m-Phenylenebis(methylamine) 1477-55-0	Workers	inhalation	Long term exposure - local		0,2 mg/m <sup>3</sup>	

			effects			
4-tert-butylphenol 98-54-4	General population	dermal	Long term exposure - systemic effects		0,026 mg/kg	
4-tert-butylphenol 98-54-4	General population	inhalation	Long term exposure - systemic effects		0,09 mg/m3	
4-tert-butylphenol 98-54-4	General population	oral	Long term exposure - systemic effects		0,026 mg/kg	
4-tert-butylphenol 98-54-4	Workers	dermal	Long term exposure - systemic effects		0,071 mg/kg	
4-tert-butylphenol 98-54-4	Workers	inhalation	Long term exposure - systemic effects		0,5 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Workers	inhalation	Long term exposure - systemic effects		130 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Workers	inhalation	Acute/short term exposure - local effects		5,36 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	inhalation	Long term exposure - systemic effects		26 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	oral	Long term exposure - systemic effects		4 mg/kg	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	inhalation	Acute/short term exposure - local effects		4 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Workers	inhalation	Long term exposure - local effects		0,6 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	inhalation	Long term exposure - local effects		0,1 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	inhalation	Acute/short term exposure - systemic effects		26400 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Workers	dermal	Long term exposure - local effects			
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Workers	dermal	Acute/short term exposure - local effects			
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	dermal	Long term exposure - local effects			
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	dermal	Acute/short term exposure - local effects			
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	General population	oral	Long term exposure - systemic effects		0,05 mg/kg	
Salicylic acid 69-72-7	Workers	inhalation	Long term exposure - systemic effects		4,48 mg/m3	
Salicylic acid 69-72-7	Workers	dermal	Long term exposure - systemic effects		1,06 mg/kg	
Salicylic acid 69-72-7	General population	inhalation	Long term exposure - systemic effects		0,79 mg/m3	
Salicylic acid 69-72-7	General population	dermal	Long term exposure - systemic effects		0,378 mg/kg	
Salicylic acid 69-72-7	General population	oral	Long term exposure - systemic effects		0,227 mg/kg	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	Workers	inhalation	Long term exposure - systemic effects		0,6 mg/m3	

2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	Workers	inhalation	Long term exposure - local effects		0,96 mg/m3	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	Workers	dermal	Long term exposure - systemic effects		0,06 mg/kg	

**Biological Exposure Indices:**

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Kaolinite 1318-74-7	Aluminum	Urine	Sampling time: End of shift.	200 µg/l	DE BAT		
4-tert-Butylphenol 98-54-4	PTBP (with hydrolysis)	Urine	Sampling time: End of shift.	2 mg/l	DE BGW		

**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	blue
Odor	ammoniacal
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 5 °C (< 41 °F)
Initial boiling point	> 180 °C (> 356 °F)no method / method unknown

Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	> 100 °C (> 212 °F)
Auto-ignition temperature	> 140 °C (> 284 °F)
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH (25 °C (77 °F); Conc.: 100 g/l; Solvent: Water)	11,3
Viscosity (kinematic) (25 °C (77 °F);)	880 mm <sup>2</sup> /s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (50 °C (122 °F))	Mixture < 700 mbar;no method / method unknown
Vapour pressure (21 °C (69.8 °F))	< 13,3 hPa
Density (20 °C (68 °F))	1,47 g/cm <sup>3</sup> None
Relative vapour density: (20 °C)	> 1
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.  
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

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.

Hazardous substances CAS-No.	Value type	Value	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LD50	380 mg/kg	rat	EPA OPP 81-1 (Acute Oral Toxicity)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	LD50	300 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
benzyl alcohol 100-51-6	Acute toxicity estimate (ATE)	1.200 mg/kg		Expert judgement
m-Phenylenebis(methylamine) 1477-55-0	LD50	980 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
4-tert-butylphenol 98-54-4	LD50	4.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	LD50	2.295 mg/kg	rat	EPA OPPTS 870.1100 (Acute Oral Toxicity)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	LD50	910 mg/kg	rat	not specified
Salicylic acid 69-72-7	LD50	891 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	LD50	320 - 460 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	Acute toxicity estimate (ATE)	320 mg/kg		Expert judgement
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-, homopolymer 29226-47-9	LD50	2.295 mg/kg	rat	EPA OPPTS 870.1100 (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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LD50	2.110 mg/kg	rabbit	not specified
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Acute toxicity estimate (ATE)	> 2.000 mg/kg	rabbit	Expert judgement
benzyl alcohol 100-51-6	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
m-Phenylenebis(methylamine) 1477-55-0	LD50	> 3.100 mg/kg	rat	not specified
4-tert-butylphenol 98-54-4	LD50	> 16.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	LD50	> 2.000 mg/kg	rat	EPA OPPTS 870.1200 (Acute Dermal Toxicity)
Salicylic acid 69-72-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	LD50	> 200 - < 400 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	Acute toxicity estimate (ATE)	201 mg/kg		Expert judgement
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-, homopolymer 29226-47-9	LD50	> 2.000 mg/kg	rat	EPA OPPTS 870.1200 (Acute Dermal Toxicity)

**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
benzyl alcohol 100-51-6	LC50	> 5,4 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
m-Phenylenebis(methylamine) 1477-55-0	LC50	1,34 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
4-tert-butylphenol 98-54-4	LC50	> 5,6 mg/l	dust/mist	4 h	rat	not specified
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	LC50	1,49 - 2,44 mg/l	dust/mist	4 h	rat	EPA OPPTS 870.1300 (Acute inhalation toxicity)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Acute toxicity estimate (ATE)	1,49 mg/l	dust/mist			Expert judgement
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	LC50	0,42 mg/l	dust/mist	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-, homopolymer 29226-47-9	Acute toxicity estimate (ATE)	1,49 mg/l	dust/mist			Expert judgement

**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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	corrosive	2,75 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Category 1C (corrosive)		Corrositex Biobarrier Membrane (reconstituted collagen matrix)	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
benzyl alcohol 100-51-6	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
4-tert-butylphenol 98-54-4	irritating	5 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	mildly irritating	4 h	rabbit	EPA OPPTS 870.2500 (Acute Dermal Irritation)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Salicylic acid 69-72-7	slightly irritating		rabbit	not specified
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	corrosive	3 min	rabbit	equivalent or similar to 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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Category 1 (irreversible effects on the eye)		rabbit	not specified
benzyl alcohol 100-51-6	irritating	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
4-tert-butylphenol 98-54-4	Category 1 (irreversible effects on the eye)	1 s	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	highly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Salicylic acid 69-72-7	highly irritating		rabbit	Draize Test
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	corrosive		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
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sensitising	Buehler test	guinea pig	Buehler test
m-Phenylenebis(methylamine) 1477-55-0	Sub-Category 1B (sensitising)	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
4-tert-butylphenol 98-54-4	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Sub-Category 1A (sensitising)	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Salicylic acid 69-72-7	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	not sensitising	Guinea pig maximisation 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.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
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)
m-Phenylenebis(methylamine) 1477-55-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
m-Phenylenebis(methylamine) 1477-55-0	negative	in vitro mammalian chromosome aberration test	with and without		not specified
4-tert-butylphenol 98-54-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Salicylic acid 69-72-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Salicylic acid 69-72-7	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Salicylic acid 69-72-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

**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
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)
Salicylic acid 69-72-7	not carcinogenic	oral: feed	2 years daily	rat	male/female	not specified

**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
benzyl alcohol 100-51-6	NOAEL P 200 mg/kg	screening	oral: gavage	mouse	not specified
2,2,4(or 2,4,4)- trimethylhexane-1,6- diamine 25513-64-8	NOAEL P 10 mg/kg NOAEL F1 10 mg/kg NOAEL F2 10 mg/kg	two- generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Salicylic acid 69-72-7	NOAEL P 250 mg/kg	three- generation study	oral: feed	rat	equivalent or similar to OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
2,2'-dimethyl-4,4'- methylenebis(cyclohexyla mine) 6864-37-5	NOAEL P 1,5 mg/kg NOAEL F1 1,5 mg/kg	one- generation study	oral: gavage	rat	OECD Guideline 443 (Extended One-Generation Reproductive 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
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	NOAEL 15 mg/kg	oral: gavage	M: 36 d / F: 48-52 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	NOAEL 15 mg/kg	oral: gavage	28 d daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
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)
m- Phenylenebis(methylamin e) 1477-55-0	LOAEL >= 600 mg/kg	oral: gavage	28 days daily	rat	Guidelines for 28-Day Repeat Dose Toxicity Test (Japan)
4-tert-butylphenol 98-54-4	LOAEL >= 200 mg/kg	oral: gavage	daily	rat	not specified
2,2,4(or 2,4,4)- trimethylhexane-1,6- diamine 25513-64-8	NOAEL 10 mg/kg	oral: gavage	13 weeks daily	rat	FDA Guideline
Salicylic acid 69-72-7	NOAEL 50 mg/kg	oral: feed	2 years daily	rat	not specified
2,2'-dimethyl-4,4'- methylenebis(cyclohexyla mine) 6864-37-5	NOAEL 2,5 mg/kg	oral: gavage	3 m 5 d/w	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
2,2'-dimethyl-4,4'- methylenebis(cyclohexyla mine) 6864-37-5	NOAEL 12 mg/m3	inhalation	3 m 6 h/d, 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)

**Aspiration hazard:**

No data available.

**11.2 Information on other hazards**

not applicable

**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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LC50	> 100 mg/l	96 h	Leuciscus idus	DIN 38412-15
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	LC50	96 mg/l	96 h	Poecilia reticulata	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)
m-Phenylenebis(methylamine) 1477-55-0	LC50	87,6 mg/l	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
4-tert-butylphenol 98-54-4	LC50	5,14 mg/l	96 h	Pimephales promelas	EU Method C.1 (Acute Toxicity for Fish)
4-tert-butylphenol 98-54-4	NOEC	> 0,01 - 0,1 mg/l	128 d	Pimephales promelas	OECD Guideline 210 (fish early lite stage toxicity test)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	LC50	168 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	LC50	174 mg/l	48 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOEC	10,9 mg/l	30 d	Danio rerio	OECD Guideline 210 (fish early lite stage toxicity test)
Salicylic acid 69-72-7	LC50	1.370 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	LC50	22,4 mg/l	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)

**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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC50	15,4 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)
m-Phenylenebis(methylamine) 1477-55-0	EC50	15,2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4-tert-butylphenol	EC50	4,8 mg/l	48 h	Daphnia magna	OECD Guideline 202

98-54-4					(Daphnia sp. Acute Immobilisation Test)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	EC50	87,4 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	EC50	31,5 mg/l	24 h	Daphnia magna	DIN 38412, part 11
Salicylic acid 69-72-7	EC50	870 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	EC50	4,57 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**Chronic toxicity (aquatic invertebrates):**

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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	NOEC	4 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
benzyl alcohol 100-51-6	NOEC	51 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
m-Phenylenebis(methylamine) 1477-55-0	NOEC	4,7 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
4-tert-butylphenol 98-54-4	NOEC	0,73 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	NOEC	> 1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOEC	1,02 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Salicylic acid 69-72-7	NOEC	10 mg/l	21 d	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	NOEC	4 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.

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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	> 140 - 200 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC10	100 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC10	1,2 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC50	43,94 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
benzyl alcohol 100-51-6	EC50	770 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
benzyl alcohol 100-51-6	NOEC	310 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
m-Phenylenebis(methylamine) 1477-55-0	EC50	33,3 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)
m-Phenylenebis(methylamine) 1477-55-0	NOEC	22,9 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)
4-tert-butylphenol 98-54-4	EC50	11,2 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
4-tert-butylphenol 98-54-4	NOEC	0,32 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	EC50	8,8 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	NOEC	3,1 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	EC50	43,5 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOEC	16 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
Salicylic acid 69-72-7	EC50	> 100 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Algal Growth Inhibition Test)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	EC50	7,9 mg/l	72 h	not specified	OECD Guideline 201 (Algal Growth Inhibition Test)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	NOEC	0,13 mg/l	72 h	not specified	OECD Guideline 201 (Algal 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
4,4'-Methylenebis(cyclohexylamine) (e)	EC20	> 1.000 mg/l	3 h	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

1761-71-3					
benzyl alcohol 100-51-6	EC10	658 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
m-Phenylenebis(methylamine) 1477-55-0	EC50	> 1.000 mg/l	30 min	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
4-tert-butylphenol 98-54-4	EC50	> 10 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
N-(3- (Trimethoxysilyl)propyl)ethyl enediamine 1760-24-3	EC 50	435 mg/l	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2,2,4(or 2,4,4)- trimethylhexane-1,6-diamine 25513-64-8	EC10	72 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
Salicylic acid 69-72-7	EC50	> 1.000 mg/l	3 h	not specified	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2,2'-dimethyl-4,4'- methylenebis(cyclohexylamin e) 6864-37-5	EC20	160 mg/l	30 min	activated sludge, domestic	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)

## 12.2. Persistence and degradability

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
4,4'- Methylenebis(cyclohexylamin e) 1761-71-3	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
benzyl alcohol 100-51-6	readily biodegradable	aerobic	92 - 96 %	14 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
m-Phenylenebis(methylamine) 1477-55-0	not readily biodegradable.	aerobic	49 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
4-tert-butylphenol 98-54-4	readily biodegradable, but failing 10-day window	aerobic	60 %	28 day	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
N-(3- (Trimethoxysilyl)propyl)ethyl enediamine 1760-24-3		aerobic	50 %		OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
2,2,4(or 2,4,4)- trimethylhexane-1,6-diamine 25513-64-8	not readily biodegradable.	aerobic	7 %	28 d	EU Method C.4-A (Determination of the "Ready" Biodegradability Dissolved Organic Carbon (DOC) Die-Away Test)
Salicylic acid 69-72-7	readily biodegradable	aerobic	88,1 %	15 d	EU Method C.4-F (Determination of the "Ready" Biodegradability MITI Test)
Salicylic acid 69-72-7	inherently biodegradable	aerobic	100 %	4 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
2,2'-dimethyl-4,4'- methylenebis(cyclohexylamin e) 6864-37-5	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
2,2'-dimethyl-4,4'- methylenebis(cyclohexylamin e) 6864-37-5	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))



**12.3. Bioaccumulative potential**

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

<b>Hazardous substances CAS-No.</b>	<b>Bioconcentration factor (BCF)</b>	<b>Exposure time</b>	<b>Temperature</b>	<b>Species</b>	<b>Method</b>
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	< 60	60 d	24 °C	Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	18 - 219	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
4-tert-butylphenol 98-54-4	20 - 48	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	> 6 - < 60	60 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

**12.4. Mobility in soil**

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

Hazardous substances CAS-No.	LogPow	Temperature	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	2,2	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	2,68	21 °C	EU Method A.8 (Partition Coefficient)
benzyl alcohol 100-51-6	1,05	20 °C	EU Method A.8 (Partition Coefficient)
m-Phenylenebis(methylamine) 1477-55-0	0,18	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
4-tert-butylphenol 98-54-4	3	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	-1,67		not specified
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	-0,3	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Salicylic acid 69-72-7	2,26	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	1,8 - 2,3	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

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

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

Hazardous substances CAS-No.	PBT / vPvB
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
benzyl alcohol 100-51-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
m-Phenylenebis(methylamine) 1477-55-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
4-tert-butylphenol 98-54-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Salicylic acid 69-72-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) 6864-37-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**12.6. Endocrine disrupting properties**

not applicable

**12.7. Other adverse effects**

Not 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	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

### 14.2. UN proper shipping name

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine,Formaldehyde, polymer with benzenamine, hydrogenated)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine,Formaldehyde, polymer with benzenamine, hydrogenated)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine,Formaldehyde, polymer with benzenamine, hydrogenated)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine,Formaldehyde, polymer with benzenamine, hydrogenated)
IATA	Amines, liquid, corrosive, n.o.s. (4,4-methylenebis-cyclohexylamine,Formaldehyde, polymer with benzenamine, hydrogenated)

### 14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

### 14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

### 14.5. Environmental hazards

ADR	not applicable
RID	not applicable

ADN not applicable  
IMDG not applicable  
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 1005/2009):	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 %

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

**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

## 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:

H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H330 Fatal if inhaled.  
H332 Harmful if inhaled.  
H361d Suspected of damaging the unborn child.  
H361f Suspected of damaging fertility.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.  
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.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

### Further information:

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