



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

Page 1 of 19

LOCTITE EA 3450 B

SDS No.: 378938

V008.0

Revision: 27.09.2021

printing date: 04.05.2022

Replaces version from: 02.07.2020

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

#### 1.1. Product identifier

LOCTITE EA 3450 B

#### 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

Adhesives

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

Fax-no.: +44 (1442) 278071

ua-productsafety.uk@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

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 damage

Category 1

H318 Causes serious eye damage.

Skin sensitizer

Category 1

H317 May cause an allergic skin reaction.

Chronic hazards to the aquatic environment

Category 3

H412 Harmful to aquatic life with long lasting effects.

#### 2.2. Label elements

##### Label elements (CLP):

**Hazard pictogram:****Contains**

Pentaerythritol-PO-mercaptopglycerol

3,3'-Oxybis(ethyleneoxy)bis(propylamine)  
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine

**Signal word:**

Danger

**Hazard statement:**

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.

**Supplemental information**

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

**Precautionary statement:  
Prevention**

P273 Avoid release to the environment.  
P280 Wear protective gloves/eye protection.

**Precautionary statement:  
Response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P333+P313 If skin irritation or rash occurs: 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:**

Part B of a two part adhesive

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Pentaerythritol-PO-mercaptoglycerol 72244-98-5	701-196-7 01-2120118957-46	25- 50 %	Skin Sens. 1B H317 Aquatic Chronic 3 H412
Barium sulfate 7727-43-7	231-784-4 01-2119491274-35	20- 40 %	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	224-207-2 01-2119963377-26	1- < 5 %	Skin Corr. 1B H314 Eye Dam. 1 H318 Skin Sens. 1 H317
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	234-148-4 01-2119970376-29	1- < 3 %	Acute Tox. 4; Oral H302 Skin Corr. 1A H314 Skin Sens. 1B H317
Titanium dioxide 13463-67-7	236-675-5 01-2119489379-17	1- < 5 %	Carc. 2; Inhalation H351
2-ethylhexanoic acid 149-57-5	205-743-6 01-2119488942-23	0,1- < 1 %	Repr. 2 H361d

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: Rash, Urticaria.

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

SKIN: Redness, inflammation.

### 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

Fine water spray

**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 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.

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**

Avoid skin and eye contact.

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**

Ensure good ventilation/extraction.

Store in a cool, well-ventilated place.

Refer to Technical Data Sheet

Never allow product to get in contact with water during storage

**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

<b>Ingredient [Regulated substance]</b>	<b>ppm</b>	<b>mg/m<sup>3</sup></b>	<b>Value type</b>	<b>Short term exposure limit category / Remarks</b>	<b>Regulatory list</b>
Barium sulfate 7727-43-7 [BARIUM SULPHATE, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Barium sulfate 7727-43-7 [BARIUM SULPHATE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Barium sulfate 7727-43-7 [BARIUM (SOLUBLE COMPOUNDS AS BA)]		0,5	Time Weighted Average (TWA):	Indicative	ECTLV
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, RESPIRABLE]		4	Time Weighted Average (TWA):		EH40 WEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		EH40 WEL

#### Occupational Exposure Limits

Valid for  
Ireland

<b>Ingredient [Regulated substance]</b>	<b>ppm</b>	<b>mg/m<sup>3</sup></b>	<b>Value type</b>	<b>Short term exposure limit category / Remarks</b>	<b>Regulatory list</b>
Barium sulfate 7727-43-7 [BARIUM SULPHATE]		5	Time Weighted Average (TWA):		IR_OEL
Barium sulfate 7727-43-7 [BARIUM (SOLUBLE COMPOUNDS AS BA)]		0,5	Time Weighted Average (TWA):	Indicative	ECTLV
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE]		10	Time Weighted Average (TWA):		IR_OEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE]		4	Time Weighted Average (TWA):		IR_OEL
2-Ethylhexanoic acid 149-57-5 [ETHYL HEXANOIC ACID]		5	Time Weighted Average (TWA):		IR_OEL

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro- w-hydroxy-, ether with 2,2- bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptap 72244-98-5	aqua (freshwater)		0,07 mg/l				
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro- w-hydroxy-, ether with 2,2- bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptap 72244-98-5	freshwater - intermittent		0,12 mg/l				
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro- w-hydroxy-, ether with 2,2- bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptap 72244-98-5	aqua (marine water)		0,007 mg/l				
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro- w-hydroxy-, ether with 2,2- bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptap 72244-98-5	sediment (freshwater)				0,322 mg/kg		
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro- w-hydroxy-, ether with 2,2- bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptap 72244-98-5	sediment (marine water)				0,032 mg/kg		
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro- w-hydroxy-, ether with 2,2- bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptap 72244-98-5	sewage treatment plant (STP)		10 mg/l				
Barium sulfate 7727-43-7	aqua (freshwater)		0,115 mg/l				
Barium sulfate 7727-43-7	sediment (freshwater)				600,4 mg/kg		
Barium sulfate 7727-43-7	Soil				207,7 mg/kg		
Barium sulfate 7727-43-7	sewage treatment plant (STP)		62,2 mg/l				
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	aqua (freshwater)		0,22 mg/l				
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	aqua (marine water)		0,022 mg/l				
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	aqua (intermittent releases)		2,2 mg/l				
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	sewage treatment plant (STP)		125 mg/l				
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	sediment (freshwater)				1,1 mg/kg		
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	sediment (marine water)				0,11 mg/kg		
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Soil				0,091 mg/kg		
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	aqua (freshwater)		9,2 µg/l				
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	aqua (marine water)		0,92 µg/l				
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	aqua (intermittent releases)		92 µg/l				
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	Sewage treatment plant		18,1 mg/l				
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	sediment (freshwater)				0,0336 mg/kg		

N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	sediment (marine water)				0,00336 mg/kg		
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	Soil				0,00132 mg/kg		
Titanium dioxide 13463-67-7	aqua (freshwater)						no hazard identified
Titanium dioxide 13463-67-7	aqua (marine water)						no hazard identified
Titanium dioxide 13463-67-7	sewage treatment plant (STP)						no hazard identified
Titanium dioxide 13463-67-7	sediment (freshwater)						no hazard identified
Titanium dioxide 13463-67-7	sediment (marine water)						no hazard identified
Titanium dioxide 13463-67-7	Soil						no hazard identified
Titanium dioxide 13463-67-7	Aquatic (intermit. releases)						no hazard identified
Titanium dioxide 13463-67-7	Predator						no hazard identified
2-Ethylhexanoic acid 149-57-5	aqua (freshwater)		0,36 mg/l				
2-Ethylhexanoic acid 149-57-5	aqua (marine water)		0,036 mg/l				
2-Ethylhexanoic acid 149-57-5	aqua (intermittent releases)		0,493 mg/l				
2-Ethylhexanoic acid 149-57-5	sewage treatment plant (STP)		71,7 mg/l				
2-Ethylhexanoic acid 149-57-5	sediment (freshwater)				6,37 mg/kg		
2-Ethylhexanoic acid 149-57-5	sediment (marine water)				0,637 mg/kg		
2-Ethylhexanoic acid 149-57-5	Soil				1,06 mg/kg		

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Poly[oxy(methyl-1,2-ethanediyl)], a-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	Workers	inhalation	Long term exposure - systemic effects		22 mg/m3	
Poly[oxy(methyl-1,2-ethanediyl)], a-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	Workers	dermal	Long term exposure - systemic effects		2,7 mg/kg	
Poly[oxy(methyl-1,2-ethanediyl)], a-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	General population	inhalation	Long term exposure - systemic effects		6,52 mg/m3	
Poly[oxy(methyl-1,2-ethanediyl)], a-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	General population	dermal	Long term exposure - systemic effects		1,61 mg/kg	
Poly[oxy(methyl-1,2-ethanediyl)], a-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptop 72244-98-5	General population	oral	Long term exposure - systemic effects		1,9 mg/kg	
Barium sulfate 7727-43-7	General population	inhalation	Long term exposure - systemic effects		10 mg/m3	
Barium sulfate 7727-43-7	General population	oral	Long term exposure - systemic effects		13000 mg/kg	
Barium sulfate 7727-43-7	Workers	inhalation	Long term exposure - systemic effects		10 mg/m3	
Barium sulfate 7727-43-7	Workers	inhalation	Long term exposure - local effects		10 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	inhalation	Long term exposure - systemic effects		59 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	inhalation	Acute/short term exposure - systemic effects		176 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	inhalation	Long term exposure - local effects		13 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	dermal	Long term exposure - systemic effects		8,3 mg/kg	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Long term exposure - systemic effects		17 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Acute/short term exposure - systemic effects		52 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Long term exposure - local effects		0,5 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Acute/short term exposure - local effects		6,5 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	dermal	Long term exposure - systemic effects		5 mg/kg	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	oral	Long term exposure - systemic effects		5 mg/kg	
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	Workers	inhalation	Long term exposure - systemic effects		0,35 mg/m3	
N'-(3-Aminopropyl)-N,N-dimethylpropane-	Workers	dermal	Long term		0,05 mg/kg	



1,3-diamine 10563-29-8			exposure - systemic effects			
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	General population	inhalation	Long term exposure - systemic effects		0,65 mg/m3	
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	General population	oral	Long term exposure - systemic effects		0,2 mg/kg	
2-Ethylhexanoic acid 149-57-5	Workers	dermal	Long term exposure - systemic effects		2 mg/kg	
2-Ethylhexanoic acid 149-57-5	Workers	inhalation	Long term exposure - systemic effects		14 mg/m3	
2-Ethylhexanoic acid 149-57-5	General population	dermal	Long term exposure - systemic effects		1 mg/kg	
2-Ethylhexanoic acid 149-57-5	General population	inhalation	Long term exposure - systemic effects		3,5 mg/m3	
2-Ethylhexanoic acid 149-57-5	General population	oral	Long term exposure - systemic effects		1 mg/kg	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Use only in well-ventilated areas.

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; &gt;= 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; &gt;= 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:

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	liquid liquid white
Odor	characteristic
Odour threshold	No data available / Not applicable
pH	Not applicable, Mixture is non-soluble (in water).
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	> 180 °C (> 356 °F)
Flash point	> 93 °C (> 199.4 °F); no method
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))	< 700 mbar
Relative vapour density:	No data available / Not applicable
Density ( $\rho$ )	1,75 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Not soluble
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

Strong oxidizing agents.  
Polymerises in presence of water.

### 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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	LD50	2.600 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Barium sulfate 7727-43-7	LD50	> 15.000 mg/kg	rat	not specified
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	LD50	3.160 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
N'-(3-Aminopropyl)-N,N- dimethylpropane-1,3- diamine 10563-29-8	LD50	1.669 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Titanium dioxide 13463-67-7	LD50	> 5.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
2-ethylhexanoic acid 149-57-5	LD50	2.043 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

#### Acute dermal toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	LD50	> 10.200 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Barium sulfate 7727-43-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	LD50	> 2.150 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Titanium dioxide 13463-67-7	LD50	>= 10.000 mg/kg	hamster	not specified
2-ethylhexanoic acid 149-57-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Titanium dioxide 13463-67-7	LC50	> 6,82 mg/l	dust	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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Barium sulfate 7727-43-7	not irritating	15 min	Human, EpiSkin™ (SM), Reconstructed Human Epidermis (RHE)	EPISKIN Method
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Titanium dioxide 13463-67-7	not irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-ethylhexanoic acid 149-57-5	not irritating		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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Barium sulfate 7727-43-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Titanium dioxide 13463-67-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-ethylhexanoic acid 149-57-5	not 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.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Barium sulfate 7727-43-7	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Titanium dioxide 13463-67-7	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to 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.

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Type of study / Route of administration</b>	<b>Metabolic activation / Exposure time</b>	<b>Species</b>	<b>Method</b>
Barium sulfate 7727-43-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Barium sulfate 7727-43-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Barium sulfate 7727-43-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Titanium dioxide 13463-67-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Titanium dioxide 13463-67-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Titanium dioxide 13463-67-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2-ethylhexanoic acid 149-57-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		Ames Test
Titanium dioxide 13463-67-7	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

**Carcinogenicity**

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

<b>Hazardous components CAS-No.</b>	<b>Result</b>	<b>Route of application</b>	<b>Exposure time / Frequency of treatment</b>	<b>Species</b>	<b>Sex</b>	<b>Method</b>
Barium sulfate 7727-43-7		oral: drinking water	2 y daily	rat	male/female	not specified
Titanium dioxide 13463-67-7	not carcinogenic	inhalation	24 m 6 h/d; 5 d/w	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
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	NOAEL P 600 mg/kg	screening	oral: gavage	rat	OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422)
Titanium dioxide 13463-67-7	NOAEL P > 1.000 mg/kg  NOAEL F1 > 1.000 mg/kg		oral: gavage	rat	OECD Guideline 421 (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
Barium sulfate 7727-43-7	NOAEL 2000 ppm	oral: drinking water	92 d daily	rat	not specified
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	NOAEL < 100 mg/kg	oral: gavage	59 days daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Titanium dioxide 13463-67-7	NOAEL 1.000 mg/kg	oral: gavage	90 d 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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	LC50	87 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Barium sulfate 7727-43-7	LC50	Toxicity > Water solubility	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Barium sulfate 7727-43-7	NOEC	Toxicity > Water solubility	33 d	Danio rerio	OECD Guideline 210 (fish early life stage toxicity test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	LC50	> 215 - 464 mg/l	96 h	Leuciscus idus	DIN 38412-15
Titanium dioxide 13463-67-7	LC50	Toxicity > Water solubility	48 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-ethylhexanoic acid 149-57-5	LC50	> 100 mg/l	96 h	Oryzias latipes	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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	EC50	12 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Barium sulfate 7727-43-7	EC50	Toxicity > Water solubility	48 h	Daphnia	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC50	218 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
N'-(3-Aminopropyl)-N,N- dimethylpropane-1,3-diamine 10563-29-8	EC50	9,2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Titanium dioxide 13463-67-7	EC50	Toxicity > Water solubility	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-ethylhexanoic acid 149-57-5	EC50	913 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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	NOEC	3,5 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Barium sulfate 7727-43-7	NOEC	Toxicity > Water solubility	21 day	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
2-ethylhexanoic acid 149-57-5	NOEC	18 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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	EC50	> 733 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	NOEC	338 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Barium sulfate 7727-43-7	EC50	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Barium sulfate 7727-43-7	NOEC	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC50	666 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	NOEC	15,6 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
Titanium dioxide 13463-67-7	EC50	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-ethylhexanoic acid 149-57-5	EC50	500 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-ethylhexanoic acid 149-57-5	EC10	231,2 mg/l	72 h	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
Pentaerythritol-PO- mercaptoglycerol 72244-98-5	EC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Barium sulfate 7727-43-7	EC0	> 10.000 mg/l	30 min		not specified
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC10	152,5 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
Titanium dioxide 13463-67-7	EC0	Toxicity > Water solubility	24 h	Pseudomonas fluorescens	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
2-ethylhexanoic acid 149-57-5	EC10	72 mg/l	17 h		DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)

#### 12.2. Persistence and degradability

No data available for the product.



Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Pentaerythritol-PO-mercaptoglycerol 72244-98-5	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	not inherently biodegradable	aerobic	< 20 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	not readily biodegradable.	aerobic	0 %	60 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	readily biodegradable		100 %	28 d	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
2-ethylhexanoic acid 149-57-5	inherently biodegradable	aerobic	> 70 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
2-ethylhexanoic acid 149-57-5	readily biodegradable	aerobic	99 %	28 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)

### 12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Barium sulfate 7727-43-7	74,4			Lepomis macrochirus	other guideline:

### 12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Pentaerythritol-PO-mercaptoglycerol 72244-98-5	1,2	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	-1,25	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	-0,47	25 °C	other (calculated)
2-ethylhexanoic acid 149-57-5	2,7	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

### 12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT/ vPvB
Pentaerythritol-PO-mercaptoglycerol 72244-98-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Barium sulfate 7727-43-7	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Titanium dioxide 13463-67-7	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
2-ethylhexanoic acid 149-57-5	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.

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

**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**

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	3334

**14.2. UN proper shipping name**

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Aviation regulated liquid, n.o.s. (Polymercaptan)

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

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	9

**14.4. Packing group**

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	III

**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
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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**

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.

**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:

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H412 Harmful to aquatic life with long lasting effects.

**Further information:**

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