



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

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LOCTITE EA 9309.3NA AERO PART A QT

SDS No. : 267004  
V009.0

Revision: 21.10.2022

printing date: 18.05.2023

Replaces version from: 03.05.2022

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

#### 1.1. Product identifier

LOCTITE EA 9309.3NA AERO PART A QT

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

Intended use:

Part A of 2-K-Epoxy Adhesive

#### 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

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

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

### SECTION 2: Hazards identification

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

##### Classification (CLP):

Skin irritation

Category 2

H315 Causes skin irritation.

Serious eye irritation

Category 2

H319 Causes serious eye irritation.

Skin sensitizer

Category 1

H317 May cause an allergic skin reaction.

Chronic hazards to the aquatic environment

Category 2

H411 Toxic to aquatic life with long lasting effects.

#### 2.2. Label elements

##### Label elements (CLP):

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

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

Bisphenol A diglycidyl ether polymer

**Signal word:**

Warning

**Hazard statement:**

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

**Precautionary statement:  
Prevention**

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

**Precautionary statement:  
Response**

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

**2.3. Other hazards**

None if used properly.  
 Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**Following substances are present in a concentration  $\geq 0,1\%$  and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):**

This mixture does not contain any substances in concentration  $\geq$  the concentration limit that are assessed to be a PBT, vPvB or ED.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures****Declaration of the ingredients according to CLP (EC) No 1272/2008:**

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq 700$ ) 25068-38-6	50- 100 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Eye Irrit. 2, H319	Skin Irrit. 2; H315; C $\geq 5$ % Eye Irrit. 2; H319; C $\geq 5$ %	
Bisphenol A diglycidyl ether polymer 25085-99-8	5- < 10 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Eye Irrit. 2, H319		
Phosphonium, ethyltriphenyl-, iodide 4736-60-1 225-245-2	0,1- < 1 %	Acute Tox. 2, Oral, H300 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Eye Irrit. 2, H319	M acute = 1 M chronic = 1 ===== oral:ATE = 25 mg/kg	

**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, consult doctor if complaint persists.

Skin contact:

Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.

Eye contact:

Wash with plenty of water immediately and continue for several minutes, holding eyelid open. Consult a doctor.

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

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

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:**

Foam, extinguishing powder, carbon dioxide.

Fine water spray

**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.

### 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**

Store in sealed original container.

Store in a cool, dry place.

Ensure that storage and workrooms are adequately ventilated.

Must be stored in a room with spill collection facilities.

Keep away from heat and direct sunlight.

Refer to Technical Data Sheet

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

Part A of 2-K-Epoxy Adhesive

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**

Valid for

Great Britain

None

**Occupational Exposure Limits**

Valid for

Ireland

None

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Suitable breathing mask when there is inadequate ventilation.

Suitable respiratory protection:

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;  $\geq 0.4$  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;  $\geq 0.4$  mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Protective eye equipment should conform to EN166.

**Skin protection:**

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Advices to personal protection equipment:**

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.

Personal protective equipment should conform to the relevant EN standard.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state	liquid
Delivery form	liquid
Colour	pink
Odor	mild
Solidification temperature	< -15 °C (< 5 °F)
Initial boiling point	> 200 °C (> 392 °F)
Flammability	The product is not flammable.
Explosive limits	The product is not flammable.
Flash point	> 93 °C (> 199.4 °F)
Auto-ignition temperature	> 200 °C (> 392 °F)
Decomposition temperature	> 200 °C (> 392 °F);
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic) (40 °C (104 °F); )	> 20 mm <sup>2</sup> /s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not soluble
Solubility (qualitative) (20 °C (68 °F); Solvent: ketones)	Partially miscible
Partition coefficient: n-octanol/water	Currently under determination
Vapour pressure (20 °C (68 °F))	< 0,1 hPa
Density (20 °C (68 °F))	1,15 g/cm <sup>3</sup> no method
Relative vapour density:	> 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

Strong oxidizing agents.

Reacts with alcohols and amines.

Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Danger of decomposition if exposed to heat.

Avoid mixing resin (Part A) and curing agent (Part B) unless you plan to use immediately.

Failure to observe these precautions may result in excessive heat build-up causing an exotherm.

### 10.5. Incompatible materials

See section reactivity.

### 10.6. Hazardous decomposition products

Hydrocarbons

Irritating vapors.

Polymerization may occur at elevated temperature or in the presence of incompatible materials.

May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

See section 5.

## SECTION 11: Toxicological information

### 1.1 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
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rat	not specified
Phosphonium, ethyltriphenyl-, iodide 4736-60-1	Acute toxicity estimate (ATE)	25 mg/kg		Expert judgement

**Acute dermal toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rabbit	not specified

**Acute inhalative toxicity:**

No data available.

**Skin corrosion/irritation:**

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not irritating	4 h	rabbit	not specified

**Serious eye damage/irritation:**

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**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
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

**Germ cell mutagenicity:**

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)

**Carcinogenicity**

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

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

**Reproductive toxicity:**

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOAEL P >= 50 mg/kg NOAEL F1 >= 750 mg/kg NOAEL F2 >= 750 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

**STOT-single exposure:**

No data available.

**STOT-repeated exposure::**

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOAEL 50 mg/kg	oral: gavage	14 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

**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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LC50	1,75 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	LC50	2 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)

**Toxicity (Daphnia):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	1,7 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phosphonium, ethyltriphenyl-, iodide 4736-60-1	EC50	0,86 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**Chronic toxicity to aquatic invertebrates**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

**Toxicity (Algae):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	> 11 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOEC	4,2 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	> 11 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	NOEC	4,2 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:

#### 12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Phosphonium, ethyltriphenyl-, iodide 4736-60-1		no data	0 - 60 %		OECD 301 A - F

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	3,242	25 °C	EU Method A.8 (Partition Coefficient)
Phosphonium, ethyltriphenyl-, iodide 4736-60-1	0,324		EU Method A.8 (Partition Coefficient)

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

Hazardous substances CAS-No.	PBT / vPvB
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

#### 12.6. Endocrine disrupting properties

not applicable

#### 12.7. Other adverse effects

No data available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product disposal:

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

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

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

Waste code

08 04 09\* waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

## SECTION 14: Transport information

### 14.1. UN number or ID number

ADR	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

### 14.2. UN proper shipping name

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

### 14.3. Transport hazard class(es)

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

### 14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

### 14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	Marine pollutant
IATA	not applicable

### 14.6. Special precautions for user

ADR	not applicable Tunnelcode:
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

### 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.

**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:

H300 Fatal if swallowed.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.  
H411 Toxic to aquatic life with long lasting effects.

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

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



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

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LOCTITE EA 9309.3NA AERO PART B 8OZ

SDS No. : 267006

V009.0

Revision: 29.03.2023

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

#### 1.1. Product identifier

LOCTITE EA 9309.3NA AERO PART B 8OZ

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

Intended use:

Part B of 2-Component Epoxy Adhesive.

#### 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

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

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

### SECTION 2: Hazards identification

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

##### Classification (CLP):

Acute toxicity	Category 4
H332 Harmful if inhaled.	
Route of Exposure: Inhalation	
Skin corrosion	Category 1B
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Toxic to reproduction	Category 2
H361 Suspected of damaging fertility or the unborn child.	

#### 2.2. Label elements

##### Label elements (CLP):

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

3,3'-Oxybis(ethyleneoxy)bis(propylamine)  
 2-piperazin-1-ylethylamine  
 Diethylenetriamine  
 N-(3-(Trimethoxysilyl)propyl)ethylenediamine  
 2-(2-aminoethylamino)ethanol  
 3,6-diazaoctanethylenediamine  
 aliphatic silylamine

**Signal word:****Danger****Hazard statement:**

H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H332 Harmful if inhaled.  
 H361 Suspected of damaging fertility or the unborn child.

**Precautionary statement:**  
**Prevention**

P261 Avoid breathing vapors.  
 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):

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

## SECTION 3: Composition/information on ingredients

**3.2. Mixtures**

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

<b>Hazardous components CAS-No. EC Number REACH-Reg No.</b>	<b>Concentration</b>	<b>Classification</b>	<b>Specific Conc. Limits, M-factors and ATEs</b>	<b>Add. Information</b>
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9 224-207-2 01-2119963377-26	50- 100 %	Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	dermal:ATE = 2.500 mg/kg	
2-piperazin-1-ylethylamine 140-31-8 205-411-0 01-2119471486-30	5- < 10 %	Acute Tox. 3, Dermal, H311 Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Aquatic Chronic 3, H412 Skin Sens. 1, H317 Repr. 2, H361	inhalation:ATE = > 10 mg/l;dust/mist	
Diethylenetriamine 111-40-0 203-865-4 01-2119473793-27	1- < 5 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Acute Tox. 2, Inhalation, H330 STOT SE 3, H335 Eye Dam. 1, H318	inhalation:ATE = 0,071 mg/l;dust/mist	
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4 203-960-0	1- < 5 %	Skin Corr. 1B, H314 Eye Dam. 1, H318		
N-(3-(Trimethoxysilyl)propyl)ethylene diamine 1760-24-3 217-164-6 01-2119970215-39	1- < 3 %	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	
phenol 108-95-2 203-632-7 01-2119471329-32	0,1- < 1 %	Muta. 2, H341 STOT RE 2, H373 Skin Corr. 1B, H314 Acute Tox. 3, Dermal, H311 Acute Tox. 3, Oral, H301 Acute Tox. 3, Inhalation, H331 Aquatic Chronic 2, H411	Skin Corr. 1B; H314; C >= 3 % Skin Irrit. 2; H315; C 1 - < 3 % Eye Irrit. 2; H319; C 1 - < 3 % ===== oral:ATE = 140 mg/kg inhalation:ATE = 1 mg/l;dust/mist	EU OEL
aliphatic silylamine 68845-16-9 272-453-4	0,1- < 1 %	Eye Dam. 1, H318 Skin Sens. 1, H317 Acute Tox. 4, Inhalation, H332 STOT RE 2, Inhalation, H373	inhalation:ATE = 1,49 mg/l;dust/mist	
2-(2-aminoethylamino)ethanol 111-41-1 203-867-5 01-2119456894-24	0,1- < 0,3 %	Repr. 1B, H360Df Skin Sens. 1, H317 Skin Corr. 1B, H314	STOT SE 3; H335; C >= 5 %	
3,6-diazaoctanethylenediamine 112-24-3 203-950-6 01-2119487919-13	0,1- < 1 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Skin Sens. 1, H317 Skin Corr. 1B, H314 Aquatic Chronic 3, H412		

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:**

Should not be a problem as product is of low volatility. However, if feeling unwell remove patient to fresh air.

**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.

SKIN: Rash, Urticaria.

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

**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:**

Foam, extinguishing powder, carbon dioxide.

Fine water spray

**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**

Wear protective equipment.

Ensure adequate ventilation.

Avoid contact with skin and eyes.

**6.2. Environmental precautions**

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

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

Remove mechanically.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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**

See advice in section 8

Ensure good ventilation/suction at the workplace.

Avoid skin and eye contact.

Do not spray against flames or glowing bodies. Keep away from sources of ignition - no smoking.

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

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

Store in sealed original container.

Store in a cool, dry place.

Ensure that storage and workrooms are adequately ventilated.

Must be stored in a room with spill collection facilities.

Keep away from heat and direct sunlight.

Refer to Technical Data Sheet

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

Part B of 2-Component Epoxy Adhesive.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational Exposure Limits

Valid for  
Great Britain

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]	1	4,3	Time Weighted Average (TWA):		EH40 WEL
Phenol 108-95-2 [PHENOL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Phenol 108-95-2 [PHENOL]	2	7,8	Time Weighted Average (TWA):		EH40 WEL
Phenol 108-95-2 [PHENOL]	2	8	Time Weighted Average (TWA):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL

#### Occupational Exposure Limits

Valid for  
Ireland

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]	1	4	Time Weighted Average (TWA):		IR_OEL
2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Phenol 108-95-2 [PHENOL]	2	8	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Phenol 108-95-2 [PHENOL]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Phenol 108-95-2 [PHENOL]	2	8	Time Weighted Average (TWA):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
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		
2-Piperazin-1-ylethylamine 140-31-8	aqua (freshwater)		0,058 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	aqua (marine water)		0,006 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	sediment (freshwater)				215 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	sediment (marine water)				21,5 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	sewage treatment plant (STP)		250 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	Freshwater - intermittent		0,58 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	Soil				1 mg/kg		
2,2'-iminodiethylamine 111-40-0	aqua (freshwater)		0,56 mg/l				
2,2'-iminodiethylamine 111-40-0	aqua (marine water)		0,056 mg/l				
2,2'-iminodiethylamine 111-40-0	aqua (intermittent releases)		0,32 mg/l				
2,2'-iminodiethylamine 111-40-0	sediment (freshwater)				1072 mg/kg		
2,2'-iminodiethylamine 111-40-0	sediment (marine water)				107,2 mg/kg		
2,2'-iminodiethylamine 111-40-0	sewage treatment plant (STP)		6 mg/l				
2,2'-iminodiethylamine 111-40-0	Soil				7,97 mg/kg		
2,2'-iminodiethylamine 111-40-0	Air						no hazard identified
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	aqua (freshwater)		0,062 mg/l				
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	aqua (marine water)		0,0062 mg/l				
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	aqua (intermittent releases)		0,62 mg/l				
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	sediment (freshwater)				0,22 mg/kg		
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	sediment (marine water)				0,022 mg/kg		
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Soil				0,0085 mg/kg		
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	sewage treatment plant		25 mg/l				

1760-24-3	(STP)						
phenol 108-95-2	aqua (freshwater)		0,008 mg/l				
phenol 108-95-2	aqua (marine water)		0,001 mg/l				
phenol 108-95-2	sediment (freshwater)				0,091 mg/kg		
phenol 108-95-2	sediment (marine water)				0,009 mg/kg		
phenol 108-95-2	Soil				0,136 mg/kg		
phenol 108-95-2	sewage treatment plant (STP)		2,1 mg/l				
phenol 108-95-2	Predator						no potential for bioaccumulation
phenol 108-95-2	aqua (intermittent releases)		0,031 mg/l				
phenol 108-95-2	Air						no hazard identified
2-(2-Aminoethylamino)ethanol 111-41-1	aqua (freshwater)		0,022 mg/l				
2-(2-Aminoethylamino)ethanol 111-41-1	aqua (intermittent releases)		0,22 mg/l				
2-(2-Aminoethylamino)ethanol 111-41-1	sewage treatment plant (STP)		82,2 mg/l				
2-(2-Aminoethylamino)ethanol 111-41-1	sediment (freshwater)				0,172 mg/kg		
2-(2-Aminoethylamino)ethanol 111-41-1	sediment (marine water)				0,0172 mg/kg		
2-(2-Aminoethylamino)ethanol 111-41-1	Soil				0,0189 mg/kg		
3,6-diazaoctanethylenediamine 112-24-3	aqua (freshwater)		0,027 mg/l				
3,6-diazaoctanethylenediamine 112-24-3	aqua (marine water)		0,003 mg/l				
3,6-diazaoctanethylenediamine 112-24-3	Sewage treatment plant		0,13 mg/l				
3,6-diazaoctanethylenediamine 112-24-3	sediment (freshwater)				8,572 mg/kg		
3,6-diazaoctanethylenediamine 112-24-3	sediment (marine water)				0,857 mg/kg		
3,6-diazaoctanethylenediamine 112-24-3	Soil				1,25 mg/kg		
3,6-diazaoctanethylenediamine 112-24-3	Freshwater - intermittent		0,2 mg/l				
3,6-diazaoctanethylenediamine 112-24-3	Marine water - intermittent		0,02 mg/l				

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
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	
2-Piperazin-1-ylethylamine 140-31-8	Workers	inhalation	Acute/short term exposure - local effects		80 mg/m3	
2-Piperazin-1-ylethylamine 140-31-8	Workers	inhalation	Long term exposure - local effects		0,015 mg/m3	
2-Piperazin-1-ylethylamine 140-31-8	Workers	Inhalation	Acute/short term exposure - systemic effects		10,6 mg/m3	
2-Piperazin-1-ylethylamine 140-31-8	Workers	dermal	Long term exposure - systemic effects		3,33 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	Workers	Inhalation	Long term exposure - systemic effects		10,6 mg/m3	
2,2'-iminodiethylamine 111-40-0	Workers	dermal	Long term exposure - systemic effects		11,4 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	dermal	Long term exposure - local effects		1,1 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Acute/short term exposure - systemic effects		92,1 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Acute/short term exposure - local effects		2,6 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Long term exposure - systemic effects		15,4 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Long term exposure - local effects		0,87 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	dermal	Acute/short term exposure - systemic effects		4,88 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	Inhalation	Acute/short term exposure - systemic effects		27,5 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	dermal	Long term exposure -		4,88 mg/kg	no hazard identified

			systemic effects			
2,2'-iminodiethylamine 111-40-0	General population	Inhalation	Long term exposure - systemic effects		4,6 mg/m3	no hazard identified
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Workers	inhalation	Long term exposure - systemic effects		260 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	Workers	inhalation	Acute/short term exposure - systemic effects		260 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		50 mg/m3	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	General population	oral	Long term exposure - systemic effects		8 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		50 mg/m3	
phenol 108-95-2	Workers	dermal	Long term exposure - systemic effects		1,23 mg/kg	no potential for bioaccumulation
phenol 108-95-2	Workers	Inhalation	Long term exposure - systemic effects		8 mg/m3	no potential for bioaccumulation
phenol 108-95-2	Workers	Inhalation	Acute/short term exposure - local effects		16 mg/m3	no potential for bioaccumulation
phenol 108-95-2	General population	Inhalation	Long term exposure - systemic effects		1,32 mg/m3	no potential for bioaccumulation
phenol 108-95-2	General population	dermal	Long term exposure - systemic effects		0,4 mg/kg	no potential for bioaccumulation
phenol 108-95-2	General population	oral	Long term exposure - systemic effects		0,4 mg/kg	no potential for bioaccumulation
3,6-diazaoctanethylenediamine 112-24-3	Workers	inhalation	Long term exposure - systemic effects		0,54 mg/m3	
3,6-diazaoctanethylenediamine 112-24-3	General population	inhalation	Long term exposure - systemic effects		0,096 mg/m3	
3,6-diazaoctanethylenediamine 112-24-3	General population	oral	Long term exposure - systemic effects		0,14 mg/kg	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Suitable breathing mask when there is inadequate ventilation.

Suitable respiratory protection:

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;  $\geq 0.4$  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;  $\geq 0.4$  mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Protective eye equipment should conform to EN166.

**Skin protection:**

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Advices to personal protection equipment:**

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.

Personal protective equipment should conform to the relevant EN standard.

**SECTION 9: Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

Delivery form	liquid
Colour	blue
Odor	amine-like
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	-30 °C (-22 °F)
Initial boiling point	145 °C (293 °F)
Initial boiling point (1.013,200 hPa)	> 93 °C (> 199.4 °F)
Flammability	Not applicable Non flammable product (flash point is greater than 93°C)
Explosive limits	Not applicable, The product is not flammable.
Flash point	> 93 °C (> 199.4 °F) Estimated
Auto-ignition temperature	> 200 °C (> 392 °F)
Decomposition temperature	> 200 °C (> 392 °F); no method / method unknown
pH (20 °C (68 °F); Conc.: 10 %; Solvent: Water)	> 12
pH (20 °C (68 °F); Solvent: Water)	> 7
Viscosity (kinematic) (40 °C (104 °F); )	6 mm <sup>2</sup> /s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	largely soluble
Solubility (qualitative) (Solvent: Water)	Negligible
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Partially miscible
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	0,2 hPa
Density (20 °C (68 °F))	1,01 g/cm <sup>3</sup> no method / method unknown
Relative vapour density: (20 °C)	8,45



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

Reaction with strong oxidants.

Reaction with strong acids.

Reaction with strong bases

Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Danger of decomposition if exposed to heat.

Avoid mixing resin (Part A) and curing agent (Part B) unless you plan to use immediately.

Failure to observe these precautions may result in excessive heat build-up causing an exotherm.

### 10.5. Incompatible materials

See section reactivity.

### 10.6. Hazardous decomposition products

Hydrocarbons

Irritating vapors.

At higher temperature ammonia or amine derivatives may be generated.

At higher temperature carbon oxides and nitrogen oxides may be generated.

May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

See section 5.

## 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
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	LD50	3.160 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Diethylenetriamine 111-40-0	LD50	1.553 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Ethanol, 2-[2-(3- aminopropoxy)ethoxy]- 112-33-4	LD50	6.500 mg/kg	rat	not specified
N-(3- (Trimethoxysilyl)propyl)e thylenediamine 1760-24-3	LD50	2.295 mg/kg	rat	EPA OPPTS 870.1100 (Acute Oral Toxicity)
phenol 108-95-2	Acute toxicity estimate (ATE)	140 mg/kg		Expert judgement
phenol 108-95-2	LD50	140 mg/kg	Human	not specified
aliphatic silylamine 68845-16-9	LD50	2.295 mg/kg	rat	EPA OPPTS 870.1100 (Acute Oral Toxicity)
2-(2- aminoethylamino)ethanol 111-41-1	LD50	2.150 mg/kg	rat	BASF Test
3,6- diazaoctanethylenediamin e 112-24-3	LD50	1.591 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

**Acute dermal toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
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	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
2-piperazin-1- ylethylamine 140-31-8	LD50	866 mg/kg	rabbit	Draize Test
Diethylenetriamine 111-40-0	LD50	1.045 mg/kg	rabbit	not specified
Ethanol, 2-[2-(3- aminopropoxy)ethoxy]- 112-33-4	LD50	6.330 mg/kg	rabbit	not specified
N-(3- (Trimethoxysilyl)propyl)e thylenediamine 1760-24-3	LD50	> 2.000 mg/kg	rat	EPA OPPTS 870.1200 (Acute Dermal Toxicity)
phenol 108-95-2	LD50	660 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
2-(2- aminoethylamino)ethanol 111-41-1	LD50	> 2.000 mg/kg	rabbit	BASF Test
3,6- diazaoctanethylenediamin e 112-24-3	LD50	1.465 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
2-piperazin-1-ylethylamine 140-31-8	Acute toxicity estimate (ATE)	> 10 mg/l	dust/mist	4 h		Expert judgement
Diethylenetriamine 111-40-0	LD 50	> 0,07 - < 0,30 mg/l		4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Diethylenetriamine 111-40-0	Acute toxicity estimate (ATE)	0,071 mg/l	dust/mist			Expert judgement
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
phenol 108-95-2	LC50	> 0,9 mg/l	dust/mist	8 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
phenol 108-95-2	Acute toxicity estimate (ATE)	1 mg/l	dust/mist	4 h		Expert judgement
aliphatic silylamine 68845-16-9	LC50	1,49 - 2,44 mg/l	dust/mist	4 h	rat	EPA OPPTS 870.1300 (Acute inhalation toxicity)
aliphatic silylamine 68845-16-9	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
3,3'-Oxybis(ethyleneoxy)bis(p-ropylamine) 4246-51-9	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-piperazin-1-ylethylamine 140-31-8	corrosive	20 min	rabbit	not specified
Diethylenetriamine 111-40-0	corrosive	15 min	rabbit	BASF Test
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	Category 1B (corrosive)		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)
phenol 108-95-2	corrosive	3 min	Human, normal, human-derived epidermal keratinocytes	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
phenol 108-95-2	corrosive	1 min	rabbit	not specified
2-(2-aminoethylamino)ethanol 111-41-1	corrosive		rabbit	BASF Test
3,6-diazaoctanethylenediamine 112-24-3	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Diethylenetriamine 111-40-0	corrosive	30 s	rabbit	not specified
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	highly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
phenol 108-95-2	corrosive		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-(2-aminoethylamino)ethanol 111-41-1	irritating		rabbit	BASF Test

**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
2-piperazin-1-ylethylamine 140-31-8	sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
Diethylenetriamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	not sensitising	Buehler 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)
phenol 108-95-2	not sensitising	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
2-(2-aminoethylamino)ethanol 111-41-1	sensitising	Patch-Test	guinea pig	Patch Test
3,6-diazaoctanethylenediamine 112-24-3	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

**Germ cell mutagenicity:**

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

<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>
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)
2-piperazin-1- ylethylamine 140-31-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-piperazin-1- ylethylamine 140-31-8	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without		not specified
2-piperazin-1- ylethylamine 140-31-8	negative	mammalian cell gene mutation assay	with and without		not specified
Diethylenetriamine 111-40-0	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diethylenetriamine 111-40-0	negative	in vitro mammalian chromosome aberration test	with and without		Chromosome Aberration Test
Ethanol, 2-[2-(3- aminopropoxy)ethoxy]- 112-33-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
phenol 108-95-2	positive	in vitro mammalian cell micronucleus test	with and without		equivalent or similar to OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
phenol 108-95-2	negative without metabolic activation	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2-(2- aminoethylamino)ethanol 111-41-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3,6- diazaoctanethylenediamin e 112-24-3	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3,6- diazaoctanethylenediamin e 112-24-3	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without		OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
2-piperazin-1- ylethylamine 140-31-8	negative	intraperitoneal		mouse	not specified
Diethylenetriamine 111-40-0	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Diethylenetriamine 111-40-0	negative	oral: gavage		mouse	not specified
phenol 108-95-2	positive	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
3,6- diazaoctanethylenediamin	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte

c 112-24-3					Micronucleus Test)
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**Carcinogenicity**

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Diethylenetriamine 111-40-0	not carcinogenic	dermal	lifetime (appr. 587 d) 3 d/w	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
phenol 108-95-2	not carcinogenic	oral: drinking water	103 w daily	mouse	male/female	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)

**Reproductive toxicity:**

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

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)
2-piperazin-1- ylethylamine 140-31-8	NOAEL P 8000 ppm NOAEL F1 8000 ppm	screening	oral: drinking water	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Diethylenetriamine 111-40-0	NOAEL P 100 mg/kg NOAEL F1 30 mg/kg	screening	oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
phenol 108-95-2	NOAEL P 71 mg/kg NOAEL F1 70 mg/kg NOAEL F2 1.000 mg/l	two- generation study	oral: drinking water	rat	equivalent or similar to OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)

**STOT-single exposure:**

No data available.

**STOT-repeated exposure:**

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
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)
2-piperazin-1- ylethylamine 140-31-8	NOAEL 2000 ppm	oral: drinking water	>= 28 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Diethylenetriamine 111-40-0	NOAEL 70 - 80 mg/kg	oral: feed	90 d daily	rat	not specified
Diethylenetriamine 111-40-0	NOAEL 0,55 mg/l	inhalation: vapour	15 d 6 h/d	rat	not specified
phenol 108-95-2	NOAEL 71 mg/kg	oral: drinking water	13 w daily	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
phenol 108-95-2	NOAEL 20 mg/m3	inhalation	90 d 8 h/d, 5 d/w	monkey	not specified
phenol 108-95-2	NOAEL 130 mg/kg	dermal	18 d 5 h/d, 5 d/w	rabbit	not specified
2-(2- aminoethylamino)ethanol 111-41-1	LOAEL >= 250 mg/kg	oral: gavage	28 days daily	rat	Guidelines for 28-Day Repeat Dose Toxicity Test (Japan)
2-(2- aminoethylamino)ethanol 111-41-1	NOAEL 1.000 mg/kg		4 weeks 6 hours/day, 5 days/week	rat	EPA Guideline
3,6- diazaoctanethylenediamin e 112-24-3	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3,6- diazaoctanethylenediamin e 112-24-3	NOAEL 50 mg/kg	oral: gavage	26 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

**Aspiration hazard:**

No data available.

**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
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	LC50	> 215 - 464 mg/l	96 h	Leuciscus idus	DIN 38412-15
2-piperazin-1-ylethylamine 140-31-8	LC50	> 100 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diethylenetriamine 111-40-0	LC50	430 mg/l	96 h	Poecilia reticulata	EU Method C.1 (Acute Toxicity for Fish)
Diethylenetriamine 111-40-0	NOEC	> 10 mg/l	28 d	Gasterosteus aculeatus	OECD Guideline 210 (fish early life stage toxicity test)
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	LC50	681,18 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute 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)
phenol 108-95-2	LC50	8,9 mg/l	96 h	Oncorhynchus mykiss	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
phenol 108-95-2	NOEC	0,077 mg/l	60 d	Cirrhinus mrigala	OECD Guideline 215 (Fish, Juvenile Growth Test)
2-(2-aminoethylamino)ethanol 111-41-1	LC50	> 243 mg/l	48 h	Leuciscus idus	DIN 38412-15
3,6-diazaoctanethylenediamine 112-24-3	LC50	570 mg/l	96 h	Poecilia reticulata	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
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	EC50	218 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
2-piperazin-1-ylethylamine 140-31-8	EC50	32 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diethylenetriamine 111-40-0	EC50	64,6 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	EC50	> 100 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
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)
phenol 108-95-2	EC50	3,1 mg/l	48 h	Ceriodaphnia dubia	other guideline:
2-(2-aminoethylamino)ethanol 111-41-1	EC50	22 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

					Immobilisation Test)
3,6-diazaoctanethylenediamine 112-24-3	EC50	31 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
Diethylenetriamine 111-40-0	NOEC	5,6 mg/l	21 d	Daphnia magna	EU Method C.20 (Daphnia magna Reproduction Test)
N-(3-(Trimethoxysilyl)propyl)ethyl enediamine 1760-24-3	NOEC	> 1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
phenol 108-95-2	NOEC	0,16 mg/l	16 d	Daphnia magna	other guideline:

**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
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	EC50	666 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	NOEC	15,6 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
2-piperazin-1-ylethylamine 140-31-8	NOEC	31 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-piperazin-1-ylethylamine 140-31-8	EC50	495 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	EC50	1.164 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	NOEC	10 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	NOEC	100 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	EC50	> 100 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	EC50	8,8 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	NOEC	3,1 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
phenol 108-95-2	EC50	61,1 mg/l	96 h	Pseudokirchneriella subcapitata (reported as Selenastrum capricornutum)	other guideline:
2-(2-aminoethylamino)ethanol 111-41-1	EC50	358 mg/l	72 h	Desmodesmus subspicatus	DIN 38412-09
2-(2-aminoethylamino)ethanol 111-41-1	EC10	156 mg/l	72 h	Desmodesmus subspicatus	DIN 38412-09
3,6-diazaoctanethylenediamine 112-24-3	EC10	< 2,5 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,6-diazaoctanethylenediamine 112-24-3	EC50	20 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity (microorganisms):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	EC10	152,5 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
2-piperazin-1-ylethylamine 140-31-8	EC10	100 mg/l	17 h		not specified
Diethylenetriamine 111-40-0	NOEC	6 mg/l	3 h	anaerobic bacteria	not specified
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	EC10	280 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
N-(3-(Trimethoxysilyl)propyl)ethyl	EC 50	435 mg/l	3 h		OECD Guideline 209 (Activated Sludge,

enediamine 1760-24-3					Respiration Inhibition Test)
phenol 108-95-2	EC50	766 mg/l	3 h	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-(2-aminoethylamino)ethanol 111-41-1	EC10	82,2 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
3,6- diazaoctanethylenediamine 112-24-3	EC0	137 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)

## 12.2. Persistence and degradability

The product is not biodegradable.

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
3,3'- Oxybis(ethyleneoxy)bis(propy- lamine) 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(propy- lamine) 4246-51-9	not readily biodegradable.	aerobic	0 %	60 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-piperazin-1-ylethylamine 140-31-8	under test conditions no biodegradation observed	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Diethylenetriamine 111-40-0	inherently biodegradable	aerobic	83 %	28 d	EU Method C.9 (Biodegradation: Zahn-Wellens Test)
Diethylenetriamine 111-40-0	readily biodegradable	aerobic	87 %	21 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Ethanol, 2-[2-(3- aminopropoxy)ethoxy]- 112-33-4	not readily biodegradable.	aerobic	14 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
N-(3- (Trimethoxysilyl)propyl)ethyl- enediamine 1760-24-3		aerobic	50 %		OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
phenol 108-95-2	readily biodegradable	aerobic	62 %	100 h	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
aliphatic silylamine 68845-16-9	not readily biodegradable.	aerobic	48 %	28 d	other guideline:
2-(2-aminoethylamino)ethanol 111-41-1	readily biodegradable	aerobic	> 60 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
3,6- diazaoctanethylenediamine 112-24-3	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
3,6- diazaoctanethylenediamine 112-24-3	not readily biodegradable.	aerobic	0 %	162 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

## 12.3. Bioaccumulative potential

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

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Diethylenetriamine 111-40-0	> 0,3 - < 6,3	42 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
phenol 108-95-2	17,5	5 h	25 °C	Danio rerio (reported as Brachydanio rerio)	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
2-(2-aminoethylamino)ethanol 111-41-1	2,1 - 3,7	42 d	25 °C	Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

**12.4. Mobility in soil**

Cured adhesives are immobile.

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

Hazardous substances CAS-No.	LogPow	Temperature	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)
2-piperazin-1-ylethylamine 140-31-8	-1,48		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Diethylenetriamine 111-40-0	-1,58	20 °C	QSAR (Quantitative Structure Activity Relationship)
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	-1,47	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
N-(3-(Trimethoxysilyl)propyl)ethylenediamine 1760-24-3	-1,67		not specified
phenol 108-95-2	1,47	30 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2-(2-aminoethylamino)ethanol 111-41-1	-1,46	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
3,6-diazaoctanethylenediamine 112-24-3	-2,65		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
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-piperazin-1-ylethylamine 140-31-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diethylenetriamine 111-40-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Ethanol, 2-[2-(3-aminopropoxy)ethoxy]- 112-33-4	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.
phenol 108-95-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-(2-aminoethylamino)ethanol 111-41-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
3,6-diazaoctanethylenediamine 112-24-3	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**

No data available.

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

**Product disposal:**

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

Dispose of in accordance with local and national regulations.

**Disposal of uncleaned packages:**

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

**Waste code**

08 04 09\* waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

**SECTION 14: Transport information****14.1. UN number or ID number**

ADR	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

**14.2. UN proper shipping name**

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylene glycol di-(3-aminopropyl) ether,Substituted piperazine)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylene glycol di-(3-aminopropyl) ether,Substituted piperazine)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylene glycol di-(3-aminopropyl) ether,Substituted piperazine)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylene glycol di-(3-aminopropyl) ether,Substituted piperazine)
IATA	Amines, liquid, corrosive, n.o.s. (Diethylene glycol di-(3-aminopropyl) ether,Substituted piperazine)

**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
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	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.



**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.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H330 Fatal if inhaled.  
H331 Toxic if inhaled.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.  
H341 Suspected of causing genetic defects.  
H360Df May damage the unborn child. Suspected of damaging fertility.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.  
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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