



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

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TEROSON EP 5065

SDS No. : 549893

V011.0

Revision: 08.01.2024

printing date: 08.01.2024

Replaces version from: 17.10.2022

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### Kit/Multi-component Product

1. SDS No.463411 - TEROSON EP 5065 Part A
2. SDS No.463489 - TEROSON EP 5065 Part B



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

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TEROSON EP 5065 Part A

SDS No. : 463411  
V011.0

Revision: 08.01.2024

printing date: 08.01.2024

Replaces version from: 03.01.2024

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

#### 1.1. Product identifier

TEROSON EP 5065 Part A

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

Intended use:

2-c-epoxide adhesive

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

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://www.henkel-adhesives.com).

#### 1.4. Emergency telephone number

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

### SECTION 2: Hazards identification

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

##### Classification (CLP):

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

2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

1,4-bis(2,3 epoxypropoxy)butane

<b>Signal word:</b>	Warning
<b>Hazard statement:</b>	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.
<b>Precautionary statement:</b>	P273 Avoid release to the environment.
<b>Prevention</b>	P280 Wear protective gloves/eye protection.

### 2.3. Other hazards

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:

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3 216-823-5 01-2119456619-26	40- 60 %	Aquatic Chronic 2, H411 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	Eye Irrit. 2; H319; C $\geq$ 5 % Skin Irrit. 2; H315; C $\geq$ 5 %	
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8 219-371-7 01-2119494060-45	10- 20 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Acute Tox. 4, Inhalation, H332 Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	inhalation:ATE = 11,01 mg/l;vapour	
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	1- < 3 %	Eye Dam. 1, H318 Aquatic Chronic 3, H412	inhalation:ATE = 12,5 mg/l;dust/mist	

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.

For full text of the H - statements and other abbreviations see section 16 "Other information".

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation:

Move to fresh air, consult doctor if complaint persists.

**Skin contact:**

IF ON SKIN: Wash with plenty of soap and water.  
In case of adverse health effects seek medical advice.

**Eye contact:**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Ingestion:**

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

**4.2. Most important symptoms and effects, both acute and delayed**

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

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:**

All common extinguishing agents are suitable.

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

High pressure waterjet

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

In case of fire toxic gases can be released.

**5.3. Advice for firefighters**

Wear protective equipment.

Wear self-contained breathing apparatus.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective equipment.

Avoid contact with skin and eyes.

Keep unprotected persons away.

Danger of slipping on spilled product.

**6.2. Environmental precautions**

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

Inform authorities in the event of product spillage to water courses or sewage systems.

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

Remove with liquid-absorbing material (sand, peat, 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**

## Hygiene measures:

- Do not eat, drink or smoke while working.
- Wash hands before work breaks and after finishing work.
- Take off contaminated clothing and wash before reuse.

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

- Ensure good ventilation/extraction.
- Storage at 15 to 35°C is recommended.
- Store in a cool, dry place.

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

2-c-epoxide adhesive

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

Valid for  
Germany

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) 14807-96-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) 14807-96-6		10	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) 14807-96-6		1,25	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	aqua (freshwater)		0,006 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	aqua (marine water)		0,001 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	sewage treatment plant (STP)		10 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	sediment (freshwater)				0,341 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	sediment (marine water)				0,034 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Soil				0,065 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	oral				11 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Freshwater - intermittent		0,018 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Marine water - intermittent		0,002 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Air						no hazard identified
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	aqua (freshwater)		0,024 mg/l				
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	oral				0,028 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	sediment (freshwater)				0,084 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Soil				0,003 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	aqua (marine water)		0,002 mg/l				
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	sewage treatment plant (STP)		100 mg/l				
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	sediment (marine water)				0,008 mg/kg		

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	dermal	Long term exposure - systemic effects		0,75 mg/kg	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	Inhalation	Long term exposure - systemic effects		4,93 mg/m <sup>3</sup>	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	dermal	Long term exposure - systemic effects		0,0893 mg/kg	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m <sup>3</sup>	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	Inhalation	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	Inhalation	Acute/short term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	dermal	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	dermal	Acute/short term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	Inhalation	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	Inhalation	Acute/short term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	dermal	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	dermal	Acute/short term exposure - local effects			no hazard identified
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	inhalation	Long term exposure - systemic effects		4,7 mg/m <sup>3</sup>	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	dermal	Long term exposure - systemic effects		6,66 mg/kg	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	inhalation	Long term exposure - systemic effects		1,16 mg/m <sup>3</sup>	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	dermal	Long term exposure - systemic effects		3,33 mg/kg	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	oral	Long term exposure - systemic effects		0,33 mg/kg	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

The product should only be used at workplaces with intensive ventilation/extraction.

If intensive ventilation/extraction is not possible respiratory protection equipment with ABEK P2 filter (EN 14387) should be worn.

**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): Isobutylene-isoprene rubber (IIR;  $\geq 0.7$  mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR;  $\geq 0.7$  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:**

Goggles which can be tightly sealed.  
Protective eye equipment should conform to EN166.

**Skin protection:**

Wear protective equipment.  
Protective clothing that covers arms and legs.  
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Advices to personal protection equipment:**

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

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	paste
Colour	black
Odor	Epoxy
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 5 °C (< 41 °F)
Initial boiling point	Not applicable, Decomposes before boiling point is reached
Flammability	non flammable
Explosive limits	Not applicable, The product is not flammable.
Flash point	> 93 °C (> 199.4 °F)
Auto-ignition temperature	Not applicable, The product is not flammable.
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic) (40 °C (104 °F); )	> 20,5 mm <sup>2</sup> /s
Viscosity, dynamic (; 20 °C (68 °F))	18.000 - 23.000 mPa.s no method / method unknown
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (20 °C (68 °F))	Mixture < 1 hPa
Density (20 °C (68 °F))	1,13 g/cm <sup>3</sup>
Relative vapour density: (20 °C)	> 1
Particle characteristics	Not applicable Product is a liquid

**9.2. Other information**

Other information not applicable for this product



## SECTION 10: Stability and reactivity

**10.1. Reactivity**

None if used for intended purpose.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

None if used for intended purpose.

**10.5. Incompatible materials**

None if used properly.

**10.6. Hazardous decomposition products**

No decomposition if used according to specifications.

## SECTION 11: Toxicological information

**General toxicological information:**

An allergic reaction cannot be excluded after repeated skin contact.

**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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	LD50	1.118 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	LD50	8.025 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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	LD50	1.130 mg/kg	rabbit	not specified
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	LD50	4.248 mg/kg	rabbit	equivalent or similar to 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
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Acute toxicity estimate (ATE)	11,01 mg/l	vapour	4 h		Expert judgement
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	LC50	> 5,3 mg/l	dust/mist	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	Acute toxicity estimate (ATE)	12,5 mg/l	dust/mist	4 h		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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	moderately irritating	24 h	rabbit	Draize Test

**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
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	corrosive		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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

**Germ cell mutagenicity:**

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	positive	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

**Carcinogenicity**

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	not carcinogenic	dermal	2 y daily	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOAEL 50 mg/kg	oral: gavage	14 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
1,4-bis(2,3-epoxypropoxy)butane 2425-79-8	NOAEL 200 mg/kg	oral: gavage	28 d daily	rat	OECD Guideline 407 (Repeated Dose 28-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, soil or bodies of 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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	LC50	1,2 mg/l	96 h	Oncorhynchus mykiss	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	LC50	24 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	LC50	55 mg/l	96 h	Cyprinus carpio	EU Method C.1 (Acute Toxicity for Fish)

#### 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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	EC50	2,7 mg/l	48 h	Daphnia magna	other guideline:
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	EC50	75 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	EC50	324 mg/l	48 h	Simocephalus vetulus	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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	NOEC	100 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

#### Toxicity (Algae):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	EC50	> 11 mg/l	72 h	Scenedesmus capricornutum	other guideline:
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOEC	4,2 mg/l	72 h	Scenedesmus capricornutum	other guideline:
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	EC50	> 160 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	EC10	97 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	EC50	350 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	NOEC	130 mg/l	96 h	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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	IC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	EC50	> 100 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

#### 12.2. Persistence and degradability

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

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	not readily biodegradable.	aerobic	38 %	28 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Oxirane, 2-[[3-(trimethoxysilyl)propoxy]methyl]-, homopolymer 56325-93-0	not readily biodegradable.		< 60 %	28 d	OECD 301 A - F

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

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

Hazardous substances CAS-No.	LogPow	Temperature	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	> 2,64 - 3,78	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	-0,269	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC 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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	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:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

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.

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## SECTION 14: Transport information

### 14.1. UN number or ID number

ADR	3077
RID	3077
ADN	3077
IMDG	3077
IATA	3077

### 14.2. UN proper shipping name

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

### 14.3. Transport hazard class(es)

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

### 14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

### 14.5. Environmental hazards

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
IMDG	Marine Pollutant
IATA	Environmentally Hazardous

### 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):	Benzo(b)fluoranthene CAS 205-99-2 Benzo(k)fluoranthene CAS 207-08-9 benzo[a]pyrene CAS 50-32-8

VOC content 15,1 %  
(2010/75/EU)

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

**National regulations/information (Germany):**

WGK: WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV) )  
Classification according to AwSV, Annex 1 (5.2)

BG regulations, rules, infos:

BG information : Guidance document for the handling of epoxy resins.

Storage class according to TRGS 510: 11

## 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.  
 H312 Harmful in contact with skin.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.  
 H332 Harmful 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:

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

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

Dear Customer,

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

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



## Safety Data Sheet according to (EC) No 1907/2006 as amended Page 1 of 25

TEROSON EP 5065 Part B

SDS No. : 463489  
V011.0

Revision: 08.01.2024  
printing date: 08.01.2024

Replaces version from: 02.01.2024

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

#### 1.1. Product identifier

TEROSON EP 5065 Part B

#### 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 AG & Co. KGaA  
Henkelstr. 67  
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://www.henkel-adhesives.com).

#### 1.4. Emergency telephone number

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

### SECTION 2: Hazards identification

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

##### Classification (CLP):

Acute toxicity	Category 4
H302 Harmful if swallowed. Route of Exposure: Oral	
Skin corrosion	Sub-category 1B
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

#### 2.2. Label elements

##### Label elements (CLP):

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

4,4'-Methylenebis(cyclohexylamine)

Formaldehyde, polymer with benzenamine, hydrogenated  
3-Aminopropyl dimethylamine

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines

Amines, polyethylenepoly-, triethylenetetramine fraction

**Signal word:**

Danger

**Hazard statement:**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

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

P260 Do not breathe dust/fume/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statement:****Response**

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.  
Rinse skin with water [or shower].P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove  
contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

**2.3. Other hazards**

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.

<b>SECTION 3: Composition/information on ingredients</b>
--

**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
Poly(oxy-1,4-butanediyl), a-hydro-w-hydroxy-, polymer with ammonia 960525-56-8	20- 40 %	Acute Tox. 4, Oral, H302 Skin Corr. 1C, H314 Aquatic Chronic 3, H412 Eye Dam. 1, H318		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3 217-168-8 01-2119541673-38 01-2119979542-27	10- 20 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT RE 2, Oral, H373 Eye Dam. 1, H318		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2 603-894-6 01-2119983522-33	10- 20 %	Acute Tox. 3, Oral, H301 Skin Corr. 1C, H314 STOT RE 2, H373 Aquatic Chronic 3, H412 Eye Dam. 1, H318 Skin Sens. 1, H317	dermal:ATE = > 2.000 mg/kg	
Polyoxypropylene diamine 9046-10-0 01-2119557899-12	10- 20 %	Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412		
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1 257-861-2 01-2120781639-37	1- < 5 %	Eye Dam. 1, H318 Aquatic Chronic 3, H412 Skin Irrit. 2, H315		
3-Aminopropyldimethylamine 109-55-7 203-680-9 01-2119486842-27	1- < 5 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT SE 3, H335 Flam. Liq. 3, H226 Eye Dam. 1, H318 Acute Tox. 4, Dermal, H312	dermal:ATE = 1.100 mg/kg	
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	1- < 3 %	Eye Dam. 1, H318 Aquatic Chronic 2, H411 Skin Sens. 1B, H317 Skin Irrit. 2, H315		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 292-588-2 01-2119487919-13	0,1- < 1 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Chronic 3, H412		

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.

For full text of the H - statements and other abbreviations see section 16 "Other information".

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General information:

Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

Inhalation:

Fresh air. Delayed effects possible after inhalation. Inform emergency services.

**Skin contact:**

Rinse immediately with plenty of running water (for 10 minutes). Remove all contaminated clothing and apply bandage. Seek medical advice.

**Eye contact:**

Immediately flush eyes with soft jet of water or eye rinse solution for at least 15 minutes. Hold eyelid wide-open. Seek a doctor/hospital, eye flushing should continue during transportation to a doctor.

**Ingestion:**

Rinse the mouth. Drink plenty of water. Immediate medical advice necessary.  
Do not induce vomiting.

**4.2. Most important symptoms and effects, both acute and delayed**

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

SKIN: Rash, Urticaria.

EYE: Irritation, conjunctivitis.

Causes burns.

**4.3. Indication of any immediate medical attention and special treatment needed**

See section: Description of first aid measures

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media:**

All common extinguishing agents are suitable.

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

High pressure waterjet

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

In case of fire toxic gases can be released.

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus.

Wear protective equipment.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective equipment.

Avoid contact with skin and eyes.

Keep unprotected persons away.

Danger of slipping on spilled product.

**6.2. Environmental precautions**

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

Inform authorities in the event of product spillage to water courses or sewage systems.

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

Remove with liquid-absorbing material (sand, peat, 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**

Hygiene measures:

Wash hands before work breaks and after finishing work.

Wash contaminated clothing before reuse.

Do not eat, drink or smoke while working.

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

Ensure good ventilation/extraction.

Storage at 15 to 35°C is recommended.

Store in a cool, dry place.

**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  
Germany

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9		4	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9		1,25	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9		10	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) 14807-96-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) 14807-96-6		10	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) 14807-96-6		1,25	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (intermittent releases)		0,08 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (freshwater)				136,6 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (marine water)		0,008 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (marine water)				13,7 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sewage treatment plant (STP)		3,2 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Soil				27,3 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (freshwater)		0,08 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (freshwater)		0,015 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (marine water)		0,002 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (intermittent releases)		0,15 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sewage treatment plant (STP)		1,9 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sediment (freshwater)				15 mg/kg		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sediment (marine water)				1,5 mg/kg		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Soil				1,8 mg/kg		
Polypropylene glycol diamine (MW=230) 9046-10-0	aqua (freshwater)		0,015 mg/l				
Polypropylene glycol diamine (MW=230) 9046-10-0	aqua (marine water)		0,014 mg/l				
Polypropylene glycol diamine (MW=230) 9046-10-0	aqua (intermittent releases)		0,15 mg/l				
Polypropylene glycol diamine (MW=230) 9046-10-0	sewage treatment plant (STP)		7,5 mg/l				
Polypropylene glycol diamine (MW=230) 9046-10-0	sediment (freshwater)				0,132 mg/kg		
Polypropylene glycol diamine (MW=230) 9046-10-0	sediment (marine water)				0,125 mg/kg		
Polypropylene glycol diamine (MW=230) 9046-10-0	oral				6,93 mg/kg		
Polypropylene glycol diamine (MW=230) 9046-10-0	Soil				0,0176 mg/kg		
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	aqua (freshwater)		0,093 mg/l				
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	aqua (marine water)		0,0093 mg/l				
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	aqua (intermittent releases)		0,93 mg/l				
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	sewage treatment plant (STP)		1,8 mg/l				
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	sediment (freshwater)				0,372 mg/kg		
1,3-Bis[3-(dimethylamino)propyl]urea	sediment				0,0372		



52338-87-1	(marine water)				mg/kg		
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	Air						no hazard identified
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	Predator						no potential for bioaccumulation
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	Soil				0,0198 mg/kg		
3-Aminopropylidimethylamine 109-55-7	aqua (freshwater)		0,073 mg/l				
3-Aminopropylidimethylamine 109-55-7	aqua (intermittent releases)		0,34 mg/l				
3-Aminopropylidimethylamine 109-55-7	aqua (marine water)		0,007 mg/l				
3-Aminopropylidimethylamine 109-55-7	sewage treatment plant (STP)		10 mg/l				
3-Aminopropylidimethylamine 109-55-7	sediment (freshwater)				0,735 mg/kg		
3-Aminopropylidimethylamine 109-55-7	sediment (marine water)				0,073 mg/kg		
3-Aminopropylidimethylamine 109-55-7	Soil				0,104 mg/kg		
3-Aminopropylidimethylamine 109-55-7	Predator						no potential for bioaccumulation
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	aqua (freshwater)		0,004 mg/l				
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	aqua (intermittent releases)		0,041 mg/l				
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	aqua (marine water)		0 mg/l				
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	sewage treatment plant (STP)		3,14 mg/l				
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	sediment (freshwater)				411,01 mg/kg		
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	sediment (marine water)				41,1 mg/kg		
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	Soil				82,18 mg/kg		
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	Predator						no potential for bioaccumulation
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (intermittent releases)		0,2 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (freshwater)		0,027 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (marine water)		0,003 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sediment (freshwater)				8,572 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sediment (marine water)				0,857 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Soil				1,25 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sewage treatment plant (STP)		0,13 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	oral						no potential for bioaccumulation

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Long term exposure - systemic effects		0,13 mg/m <sup>3</sup>	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - systemic effects		0,053 mg/kg	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Long term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Acute/short term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - local effects			
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	inhalation	Long term exposure - systemic effects		0,2 mg/m <sup>3</sup>	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	inhalation	Acute/short term exposure - systemic effects		2 mg/m <sup>3</sup>	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	dermal	Long term exposure - systemic effects		2 mg/kg	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	dermal	Acute/short term exposure - systemic effects		6 mg/kg	
Polypropylene glycol diamine (MW=230) 9046-10-0	Workers	dermal	Long term exposure - systemic effects		2,5 mg/kg	
Polypropylene glycol diamine (MW=230) 9046-10-0	Workers	inhalation	Long term exposure - systemic effects		10,58 mg/m <sup>3</sup>	
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	Workers	inhalation	Long term exposure - systemic effects		5,8 mg/m <sup>3</sup>	no hazard identified
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	Workers	dermal	Long term exposure - systemic effects		2,33 mg/kg	no hazard identified
1,3-Bis[3-(dimethylamino)propyl]urea 52338-87-1	General population	oral	Long term exposure - systemic effects		0,833 mg/kg	no hazard identified
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Workers	Inhalation	Long term exposure - systemic effects		0,54 mg/m <sup>3</sup>	no potential for bioaccumulation
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	General population	Inhalation	Long term exposure - systemic effects		0,096 mg/m <sup>3</sup>	no potential for bioaccumulation
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	General population	oral	Long term exposure - systemic effects		0,14 mg/kg	no potential for bioaccumulation

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:  
Ensure good ventilation/extraction.

Respiratory protection:  
Ensure good ventilation/suction at the workplace.

**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:**

Goggles which can be tightly sealed.

Protective eye equipment should conform to EN166.

**Skin protection:**

Wear protective equipment.

Protective clothing that covers arms and legs.

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

**Advices to personal protection equipment:**

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

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	paste
Colour	grey
Odor	Of amine
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	$< 5$ °C ( $< 41$ °F)
Initial boiling point	Not applicable, Decomposes before boiling point is reached
Flammability	non flammable
Explosive limits	Not applicable, The product is not flammable.
Flash point	$> 93$ °C ( $> 199.4$ °F)
Auto-ignition temperature	Not applicable, The product is not flammable.
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	10 - 11
(20 °C (68 °F); Conc.: 10 % product; Solvent: Water)	
Viscosity (kinematic)	$> 20,5$ mm <sup>2</sup> /s
(40 °C (104 °F); )	
Viscosity, dynamic	1.000 - 3.000 mPa.s no method / method unknown
()	
Solubility (qualitative)	Not miscible or difficult to mix
(20 °C (68 °F); Solvent: Water)	
Partition coefficient: n-octanol/water	Not applicable
	Mixture
Vapour pressure	$< 1$ hPa
(20 °C (68 °F))	
Density	1,0 g/cm <sup>3</sup>
(20 °C (68 °F))	
Relative vapour density:	$> 1$
(20 °C)	
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**

None if used for intended purpose.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

None if used for intended purpose.

**10.5. Incompatible materials**

None if used properly.

**10.6. Hazardous decomposition products**

No decomposition if used according to specifications.

## SECTION 11: Toxicological information

### General toxicological information:

An allergic reaction cannot be excluded after repeated skin contact.

### 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
Poly(oxy-1,4-butanediyl), a-hydro-w-hydroxy-, polymer with ammonia 960525-56-8	LD50	2.000 mg/kg	rat	not specified
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	LD50	380 mg/kg	rat	EPA OPP 81-1 (Acute Oral Toxicity)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	LD50	300 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Polyoxypropylene diamine 9046-10-0	LD50	2.885,3 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	LD50	5.126 mg/kg	rat	other guideline:
3- Aminopropyl dimethylami ne 109-55-7	LD50	410 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	LD50	> 2.000 mg/kg	rat	not specified
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LD50	1.716 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

**Acute dermal toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Poly(oxy-1,4-butanediyl), a-hydro-w-hydroxy-, polymer with ammonia 960525-56-8	LD50	> 2.000 mg/kg	guinea pig	not specified
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	LD50	2.110 mg/kg	rabbit	not specified
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Acute toxicity estimate (ATE)	> 2.000 mg/kg	rabbit	Expert judgement
Polyoxypropylene diamine 9046-10-0	LD50	2.979,7 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	LD50	> 2.050 mg/kg	rat	other guideline:
3- Aminopropyldimethylami ne 109-55-7	Acute toxicity estimate (ATE)	1.100 mg/kg		Expert judgement
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	LD50	> 2.000 mg/kg	rat	not specified
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LD50	1.465 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

No data available.

**Skin corrosion/irritation:**

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	corrosive	2,75 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Category 1C (corrosive)		Corrositex Biobarrier Membrane (reconstituted collagen matrix)	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
Polyoxypropylene diamine 9046-10-0	corrosive	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	irritating or corrosive		Human, EpiDerm™ SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	not corrosive		Human, EpiDerm™ SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
3-Aminopropyl dimethylamine 109-55-7	Category 1B (corrosive)		rabbit	BASF Test
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	not corrosive	1 h	Human, EpiDerm™ SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	irritating or corrosive	1 h	Human, EpiDerm™ SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	irritating			Weight of evidence
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Category 1 (irreversible effects on the eye)		rabbit	not specified
Polyoxypropylene diamine 9046-10-0	corrosive		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
3-Aminopropyldimethylamine 109-55-7	corrosive		rabbit	BASF Test
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Category 1 (irreversible effects on the eye)		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sensitising	Buehler test	guinea pig	Buehler test
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	not sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
3-Aminopropyldimethylamine 109-55-7	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
3-Aminopropyldimethylamine 109-55-7	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	Sub-Category 1B (sensitising)	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Sensitizing	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)



**Germ cell mutagenicity:**

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Polyoxypropylene diamine 9046-10-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Polyoxypropylene diamine 9046-10-0	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
3- Aminopropyldimethylami ne 109-55-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3- Aminopropyldimethylami ne 109-55-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
3- Aminopropyldimethylami ne 109-55-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Polyoxypropylene diamine 9046-10-0	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	negative			mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
3- Aminopropyldimethylami ne 109-55-7	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

**Carcinogenicity**

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not carcinogenic	dermal	lifetime three times/w	mouse	male	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)

**Reproductive toxicity:**

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	NOAEL P 500 mg/kg NOAEL F1 500 mg/kg	screening	oral: gavage	rat	not specified
3- Aminopropyldimethylami ne 109-55-7	NOAEL P 200 mg/kg NOAEL F1 200 mg/kg	screening	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
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	NOAEL 15 mg/kg	oral: gavage	M: 36 d / F: 48-52 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	NOAEL 15 mg/kg	oral: gavage	28 d daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Polyoxypropylene diamine 9046-10-0	NOAEL 239 mg/kg	oral: feed	31 d daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Polyoxypropylene diamine 9046-10-0	NOAEL 250 mg/kg	dermal	90 d Once daily, five days per week	rat	equivalent or similar to OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
1,3-bis[3- (dimethylamino)propyl]ur ea 52338-87-1	NOAEL > 500 mg/kg	oral: gavage	28 d daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
3- Aminopropyldimethylami ne 109-55-7	NOAEL 50 mg/kg	oral: gavage	28 d daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
3- Aminopropyldimethylami ne 109-55-7	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

**Aspiration hazard:**

No data available.

**11.2 Information on other hazards**

not applicable

## SECTION 12: Ecological information

### General ecological information:

Do not empty into drains, soil or bodies of 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
Poly(oxy-1,4-butanediyl), a-hydro-w-hydroxy-, polymer with ammonia 960525-56-8	LC50	> 100 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LC50	> 100 mg/l	96 h	Leuciscus idus	DIN 38412-15
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	LC50	96 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
Polyoxypropylene diamine 9046-10-0	LC50	772,14 mg/l	96 h	Cyprinodon variegatus	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	LC50	> 1.000 mg/l	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
3-Aminopropyl dimethylamine 109-55-7	LC50	122 mg/l	96 h	Leuciscus idus melanotus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	LC50	7,07 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LC50	330 mg/l	96 h	Pimephales promelas	other guideline:

#### Toxicity (aquatic invertebrates):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly(oxy-1,4-butanediyl), a-hydro-w-hydroxy-, polymer with ammonia 960525-56-8	EC50	15 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC50	15,4 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Polyoxypropylene diamine 9046-10-0	EC50	80 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	EC50	93 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3-Aminopropyl dimethylamine 109-55-7	EC50	59,5 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	EC50	5,18 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

68410-23-1					
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC50	31 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**Chronic toxicity (aquatic invertebrates):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	NOEC	4 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
3-Aminopropylidimethylamine 109-55-7	NOEC	3,64 mg/l	22 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC10	1,9 mg/l	21 day	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)

**Toxicity (Algae):**

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly(oxy-1,4-butanediyl), a-hydro-w-hydroxy-, polymer with ammonia 960525-56-8	IC50	135 mg/l	72 h		OECD Guideline 201 (Algal Growth Inhibition Test)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	> 140 - 200 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC10	100 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC10	1,2 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC50	43,94 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Polyoxypropylene diamine 9046-10-0	EC10	1,4 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
Polyoxypropylene diamine 9046-10-0	EC50	15 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	EC50	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	EC10	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
3-Aminopropyl dimethylamine 109-55-7	EC50	56,2 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Algal Growth Inhibition Test)
3-Aminopropyl dimethylamine 109-55-7	NOEC	19,53 mg/l	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	EC50	4,11 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	NOEC	1,25 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Algal Growth Inhibition Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC50	20 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC10	1,34 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Algal Growth Inhibition Test)

#### Toxicity (microorganisms):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC20	> 1.000 mg/l	3 h	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Polyoxypropylene diamine 9046-10-0	EC50	750 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	EC50	820 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
3-Aminopropyl dimethylamine	EC10	17 mg/l	18 h	Pseudomonas putida	DIN 38412, part 8

109-55-7					(Pseudomonas Zellvermehrungshemm-Test)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	EC50	314 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

## 12.2. Persistence and degradability

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

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Poly(oxy-1,4-butanediyl), a-hydro-w-hydroxy-, polymer with ammonia 960525-56-8	not readily biodegradable.	aerobic	31 %	28 day	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Polyoxypropylene diamine 9046-10-0	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	not readily biodegradable.	aerobic	1 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
3-Aminopropyl dimethylamine 109-55-7	inherently biodegradable	not specified	100 %	15 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
3-Aminopropyl dimethylamine 109-55-7	readily biodegradable	aerobic	65 %	20 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	not readily biodegradable.	aerobic	> 0 - < 70 %	74 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not readily biodegradable.	aerobic	0 %	162 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not inherently biodegradable	aerobic	20 %	84 d	OECD Guideline 302 A (Inherent Biodegradability: Modified SCAS Test)

## 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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	< 60	60 d	24 °C	Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	18 - 219	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	< 2,3	28 d	25 °C	Cyprinus carpio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

## 12.4. Mobility in soil

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

Hazardous substances CAS-No.	LogPow	Temperature	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	2,2	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	2,68	21 °C	EU Method A.8 (Partition Coefficient)
Polyoxypropylene diamine 9046-10-0	1,34	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	0,817	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
3-Aminopropyl dimethylamine 109-55-7	-0,352	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	8,71		QSAR (Quantitative Structure Activity Relationship)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	-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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Polyoxypropylene diamine 9046-10-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1,3-bis[3-(dimethylamino)propyl]urea 52338-87-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
3-Aminopropyl dimethylamine 109-55-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines 68410-23-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	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:**

In consultation with the responsible local authority, must be subjected to special treatment.

**Waste code**

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.

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

ADR	3259
RID	3259
ADN	3259
IMDG	3259
IATA	3259

**14.2. UN proper shipping name**

ADR	AMINES, SOLID, CORROSIVE, N.O.S. (Polyether amine,4,4-methylenebis-cyclohexylamine,Polyoxy propylene diamine)
RID	AMINES, SOLID, CORROSIVE, N.O.S. (Polyether amine,4,4-methylenebis-cyclohexylamine,Polyoxy propylene diamine)
ADN	AMINES, SOLID, CORROSIVE, N.O.S. (Polyether amine,4,4-methylenebis-cyclohexylamine,Polyoxy propylene diamine)
IMDG	AMINES, SOLID, CORROSIVE, N.O.S. (Polyether amine,4,4-methylenebis-cyclohexylamine,Polyoxy propylene diamine)
IATA	Amines, solid, corrosive, n.o.s. (Polyether amine,4,4-methylenebis-cyclohexylamine,Polyoxy propylene diamine)

**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	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
IMDG	Marine Pollutant
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/EU)	0 %

**15.2. Chemical safety assessment**

A chemical safety assessment has been carried out.

**National regulations/information (Germany):**

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

BG regulations, rules, infos:

BG information : Guidance document for the handling of epoxy resins.

Storage class according to TRGS 510: 8A

## SECTION 16: Other information

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

H226 Flammable liquid and vapour.  
 H301 Toxic if swallowed.  
 H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H335 May cause respiratory irritation.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 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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