

# Security data sheet



Product: M-31CL

Manufacturer: HENKEL KGAA

Product group: KLEBSTOFF

Article group: 2-K KLEBSTOFF

Download: 06.05.2024

## LOCTITE EA M-31CL MEDICAL EPOXY

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

Page 1 of 13

LOCTITE EA M-31CL MEDICAL EPOXY

SDS No. : 164638  
V001.1

Revision: 19.01.2021

printing date: 05.05.2021

Replaces version from: 09.08.2018

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

#### 1.1. Product identifier

LOCTITE EA M-31CL MEDICAL EPOXY

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

Intended use:

Epoxy resin

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

Henkel AG & Co. KGaA

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ua-productsafety.de@henkel.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

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

2,2'-[methylenebis(p-phenyleneoxymethylene)]bisoxirane

**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.

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

Epoxy Adhesive

**Base substances of preparation:**

polymers

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6		50- 100 %	Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 Aquatic Chronic 2 H411
2,2'-[methylenebis(p- phenyleneoxymethylene)]bisoxirane 2095-03-6	218-257-4	0,1- < 1 %	Aquatic Chronic 2 H411 Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319

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.

Water spray jet

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

High pressure waterjet

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

Danger of decomposition if exposed to heat.

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**

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.

Ensure adequate ventilation.

#### **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

Extract when the product is heated.

Ensure good ventilation/suction at the workplace.

Avoid skin and eye contact.

**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 only in the 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)**

Epoxy resin

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

Valid for  
Germany

None

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:  
Ensure good ventilation/extraction.

Respiratory protection:  
Ensure adequate ventilation.  
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area  
Filter type: A (EN 14387)

Hand protection:  
Chemical-resistant protective gloves (EN 374).  
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):  
nitrile rubber (NBR;  $\geq 0.4$  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.  
or  
protective shield  
Protective eye equipment should conform to EN166.

**Skin protection:**

Wear protective equipment.

Suitable protective clothing

apron

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

**Advices to personal protection equipment:**

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

Personal protective equipment should conform to the relevant EN standard.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

Appearance	liquid Highly viscous yellowish
Odor	aromatic
Odour threshold	No data available / Not applicable
pH	Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	> 148 °C (> 298.4 °F)
Flash point	> 93 °C (> 199.4 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density (20 °C (68 °F))	1,1 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not miscible
Solubility (qualitative) (20 °C (68 °F); Solvent: ketones)	Partially miscible
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity (Brookfield; Instrument: RVT; 25 °C (77 °F); speed of rotation: 20 min <sup>-1</sup> ; Spindle No: 6)	9.000 - 12.000 cPas
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

**9.2. Other information**

No data available / Not applicable

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

Strong oxidizing agents.

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**

No decomposition if stored and applied as directed.  
 Danger of decomposition if exposed to heat.

**10.5. Incompatible materials**

See section reactivity.

**10.6. Hazardous decomposition products**

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

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute oral toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
2,2'-[methylenebis(p- phenyleneoxymethylene)] bisoxirane 2095-03-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)

**Acute dermal toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-[methylenebis(p- phenyleneoxymethylene)] bisoxirane 2095-03-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

No data available.

**Skin corrosion/irritation:**

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	moderately irritating	24 h	rabbit	Draize Test

**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)
2,2'-[methylenebis(p-phenyleneoxymethylene)] bisoxirane 2095-03-6	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 $\leq$ 700) 25068-38-6	NOAEL P $\geq$ 50 mg/kg  NOAEL F1 $\geq$ 750 mg/kg  NOAEL F2 $\geq$ 750 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)

**STOT-single exposure:**

No data available.

**STOT-repeated exposure::**

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

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

**Aspiration hazard:**

No data available.

## SECTION 12: Ecological information

### General ecological information:

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

### 12.1. Toxicity

#### Toxicity (Fish):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LC50	1,75 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2'-[methylenebis(p-phenyleneoxymethylene)]bisoxirane 2095-03-6	LC50	> 1 - 10 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)
2,2'-[methylenebis(p-phenyleneoxymethylene)]bisoxirane 2095-03-6	EC50	> 1 - 10 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)

#### 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)

#### 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

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2,2'-(methylenebis(p-phenyleneoxymethylene))bisoxirane 2095-03-6	not readily biodegradable.	aerobic	< 10 %	28 d	OECD 301 A - F

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

Cured adhesives are immobile.

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

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

This mixture does not contain any substances that are assessed to be a PBT or vPvB.

#### 12.6. Other adverse effects

No data available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**Product disposal:**

Dispose of in accordance with local and national regulations.

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

**Disposal of uncleaned packages:**

Disposal must be made according to official regulations.

Use packages for recycling only when totally empty.

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

**Waste code**

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

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

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

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

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

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

not applicable

### SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation 1005/2009/EC):	Not applicable
Prior Informed Consent (PIC) (Regulation 649/2012/EC):	Not applicable
Persistent Organic Pollutants (POPs) (Regulation 2019/1021/EC) :	Not applicable

**EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC):** Not applicable

VOC content (2010/75/EC)	< 1 %
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#### 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) )
Storage class according to TRGS 510:	Classification according to AwSV, Annex 1 (5.2) 10

**SECTION 16: Other information**

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

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

**Further information:**

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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 amendedPage 1 of 12

LOCTITE EA M-31CL MEDICAL EPOXY

SDS No. : 157223

V001.1

Revision: 19.01.2021

printing date: 05.05.2021

Replaces version from: 09.08.2018

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

#### 1.1. Product identifier

LOCTITE EA M-31CL MEDICAL EPOXY

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

Intended use:

Epoxy Hardener

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

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

Fax-no.: +49 211 798 2009

ua-productsafety.de@henkel.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 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.

#### 2.2. Label elements

##### Label elements (CLP):

##### Hazard pictogram:



##### Contains

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

<b>Signal word:</b>	Danger
<b>Hazard statement:</b>	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction.
<b>Precautionary statement: Prevention</b>	P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary statement: Response</b>	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor.

**2.3. Other hazards**

None if used properly.

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

### SECTION 3: Composition/information on ingredients

**3.2. Mixtures****General chemical description:**

Accelerator for epoxy systems

**Base substances of preparation:**organic amine  
organic polymers**Declaration of the ingredients according to CLP (EC) No 1272/2008:**

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
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

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.

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.

**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.

Water spray jet

**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.

Danger of decomposition if exposed to heat.

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**Additional information:**

In case of fire, keep containers cool with water spray.

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

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Wear protective equipment.

**6.2. Environmental precautions**

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

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

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

Dispose of contaminated material as waste according to Section 13.

**6.4. Reference to other sections**

See advice in section 8

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

See advice in section 8

Avoid skin and eye contact.

**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)**

Epoxy Hardener

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

None

**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		

**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	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to &gt; 30 minutes permeation time as per EN 374):

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

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

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

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

**Eye protection:**

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.  
Protective eye equipment should conform to EN166.

**Skin protection:**

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

**Advices to personal protection equipment:**

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

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

Appearance	liquid liquid yellow
Odor	mild
Odour threshold	No data available / Not applicable
pH (20 °C (68 °F); Solvent: Water)	> 7
Melting point	Not available.
Solidification temperature	No data available / Not applicable
Initial boiling point	> 149 °C (> 300.2 °F)
Flash point	> 120 °C (> 248 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density (20 °C (68 °F))	1,01 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	low solubility
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity ( )	1.500 - 3.000 mPa.s
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

**9.2. Other information**

Ignition temperature	Not available.
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**SECTION 10: Stability and reactivity****10.1. Reactivity**

Strong oxidizing agents.  
Reacts violently with peroxides.  
Acids.  
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.

No decomposition if stored and applied as directed.

**10.5. Incompatible materials**

See section reactivity.

**10.6. Hazardous decomposition products**

Irritating organic vapours.

Hydrocarbons

At higher temperature ammonia may be generated.

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

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects****Acute oral toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	LD50	3.160 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	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
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

No data available.

**Respiratory or skin sensitization:**

No data available.

**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
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)

**Carcinogenicity**

No data available.

**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)

**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)

**Aspiration hazard:**

No data available.

**SECTION 12: Ecological information****General ecological information:**

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

**12.1. Toxicity****Toxicity (Fish):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	LC50	> 215 - 464 mg/l	96 h	Leuciscus idus	DIN 38412-15

**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
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC50	218 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)

**Chronic toxicity to aquatic invertebrates**

No data available.

**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
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC50	666 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	NOEC	15,6 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09

**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
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC10	152,5 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)

**12.2. Persistence and degradability**

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	not inherently biodegradable	aerobic	< 20 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
3,3'- Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	not readily biodegradable.	aerobic	0 %	60 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

Cured adhesives are immobile.

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)

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

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.

**12.6. Other adverse effects**

No data available.

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

Product disposal:

Dispose of in accordance with local and national regulations.

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

Disposal of uncleaned packages:

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

Waste code

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

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



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

ADR	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

**14.2. UN proper shipping name**

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyglycol diamine)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyglycol diamine)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyglycol diamine)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyglycol diamine)
IATA	Amines, liquid, corrosive, n.o.s. (Polyglycol 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	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

**14.6. Special precautions for user**

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

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

not applicable

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

Ozone Depleting Substance (ODS) (Regulation 1005/2009/EC):	Not applicable
Prior Informed Consent (PIC) (Regulation 649/2012/EC):	Not applicable
Persistent Organic Pollutants (POPs) (Regulation 2019/1021/EC) :	Not applicable

**EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC):** Not applicable

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

**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)
Storage class according to TRGS 510:	8B

**SECTION 16: Other information**

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

H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.

**Further information:**

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