



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

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Terokal 5010 TR 175ML

sds no. : SET000237719  
V003.1

Revision: 03.12.2012  
printing date: 22.04.2013

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

#### 1.1. Product identifier

Terokal 5010 TR 175ML

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

Intended use:

Part A of 2-K-Epoxy Adhesive

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

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 (211) 797 0

Fax-no.: +49 (211) 798 4008

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 (DPD):

Sensitizing

R43 May cause sensitisation by skin contact.

Xi - Irritant

R36/38 Irritating to eyes and skin.

N - Dangerous for the environment

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2. Label elements

**Label elements (DPD):**

Xi - Irritant



N - Dangerous for the environment

**Risk phrases:**

R36/38 Irritating to eyes and skin.

R43 May cause sensitisation by skin contact.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

S24/25 Avoid contact with skin and eyes.

S28 After contact with skin, wash immediately with plenty of water and soap.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

**Additional labeling:**

Contains epoxy constituents. See information supplied by the manufacturer.

**Contains:**

Bisphenol-A epichlorhydrin resin MW &lt;= 700,

Oxirane, mono[(C12-14-alkyloxy)methyl] derivatives

**2.3. Other hazards**

Persons suffering from allergic reactions to epoxides should avoid contact with the product.

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

Part A of two part adhesive

**Base substances of preparation:**

Epoxy resin

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	500-033-5 01-2119456619-26	> 25 %	Skin sensitizer 1 H317 Chronic hazards to the aquatic environment 2 H411 Serious eye irritation 2 H319 Skin irritation 2 H315
Oxirane, mono[(C12-14-alkyloxy)methyl] derivates 68609-97-2	271-846-8 01-2119485289-22	< 10 %	Skin irritation 2 H315 Skin sensitizer 1 H317
Calcium oxide 1305-78-8	215-138-9 01-2119475325-36	< 5 %	Skin irritation 2; Dermal H315 Serious eye damage/eye irritation 1 H318 Specific target organ toxicity - single exposure 3; Inhalation H335

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.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	500-033-5 01-2119456619-26	> 25 %	R43 Xi - Irritant; R36/38 N - Dangerous for the environment; R51/53
Oxirane, mono[(C12-14- alkyloxy)methyl] derivates 68609-97-2	271-846-8 01-2119485289-22	< 10 %	R43 Xi - Irritant; R38
Calcium oxide 1305-78-8	215-138-9 01-2119475325-36	< 5 %	Xi - Irritant; R37/38, R41

For full text of the R-Phrases indicated by codes 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:

Fresh air, oxygen supply, warmth; seek specialist medical attention.

Skin contact:

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

Eye contact:

Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remains (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

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

May cause sensitization by skin contact.

Irritating to eyes.

Irritating to the skin.

### 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.

### 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 mechanically.  
Dispose of contaminated material as waste according to Chapter 13.

### 6.4. Reference to other sections

See advice in chapter 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.

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

Ensure good ventilation/extraction.  
Store in a cool, frost-free place.  
Storage at 15 to 25°C is recommended.

### 7.3. Specific end use(s)

Part A of 2-K-Epoxy Adhesive

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

None

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	aqua (freshwater)					3 µg/L	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	aqua (marine water)					0,3 µg/L	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	STP					10 mg/L	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	sediment (freshwater)				0,5 mg/kg		
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	sediment (marine water)				0,5 mg/kg		
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	aqua (intermittent releases)					0,013 mg/L	
Calcium oxide 1305-78-8	soil					816 mg/L	

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	dermal	Acute/short term exposure - systemic effects		8,3 mg/kg bw/day	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	inhalation	Acute/short term exposure - systemic effects		12,3 mg/m3	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	dermal	Long term exposure - systemic effects		8,3 mg/kg bw/day	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	inhalation	Long term exposure - systemic effects		12,3 mg/m3	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	dermal	Acute/short term exposure - systemic effects		3,6 mg/kg bw/day	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	inhalation	Acute/short term exposure - systemic effects		0,75 mg/m3	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	oral	Acute/short term exposure - systemic effects		0,75 mg/kg bw/day	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	dermal	Long term exposure - systemic effects		3,6 mg/kg bw/day	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	inhalation	Long term exposure - systemic effects		0,75 mg/m3	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	oral	Long term exposure - systemic effects		0,75 mg/kg bw/day	
Calcium oxide 1305-78-8	worker	inhalation	Long term exposure - local effects	8 h	1 mg/m3	
Calcium oxide 1305-78-8	worker	inhalation	Long term exposure - systemic effects	8 h	1 mg/m3	
Calcium oxide 1305-78-8	worker	inhalation	Acute/short term exposure - local effects	15 min	4 mg/m3	
Calcium oxide 1305-78-8	worker	inhalation	Acute/short term exposure - systemic effects	15 min	4 mg/m3	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

## Engineering controls:

Ensure good ventilation/extraction.

## Respiratory protection:

Suitable breathing mask when there is inadequate ventilation.

**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.

**Skin protection:**

Wear protective equipment.

Protective clothing that covers arms and legs.

**Advices to personal protection equipment:**

Use only personal protection that's CE-labelled according to the regulation no. 819 of 19 August 1994.

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

Appearance	paste pasty grey
Odor	characteristic
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 100,00 °C (> 212 °F); flash point, Abel-Pensky
Decomposition temperature	No data available / Not applicable
Vapour pressure (20,0 °C (68 °F))	< 50 mbar
Density (20 °C (68 °F))	0,87 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	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**

Reacts with strong oxidants.

**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**

**11.1. Information on toxicological effects**

**General toxicological information:**

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Persons suffering from allergic reactions to epoxides should avoid contact with the product.

**Skin irritation:**

Irritating to the skin.

**Eye irritation:**

Irritating to eyes.

**Sensitizing:**

May cause sensitization by skin contact.

**Skin corrosion/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	slightly irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

Hazardous components CAS-No.	Result	Test type	Species	Method
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)



**Germ cell mutagenicity:**

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Bisphenol-A epichlorhydrin resin MW <= 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)

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

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Do not empty into drains, soil or bodies of water.

Toxic to aquatic organisms

May cause long-term adverse effects in the aquatic environment.

**12.1. Toxicity**

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	LC50	1,750000 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Oxirane, mono[(C12-14- alkyloxy)methyl] derivates 68609-97-2	LC50	1 - 10 mg/l	Fish	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)
Oxirane, mono[(C12-14- alkyloxy)methyl] derivates 68609-97-2	EC50	1 - 10 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Calcium oxide 1305-78-8	LC50	1.070 mg/l	Fish	96 h	Cyprinus carpio	OECD Guideline 203 (Fish, Acute Toxicity Test)

**12.2. Persistence and degradability**

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Oxirane, mono[(C12-14- alkyloxy)methyl] derivates 68609-97-2		aerobic	< 10 %	

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

The valid EEC waste code numbers are not product-related but are largely source-related. These can be requested from the manufacturer.

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

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

ADR	3077
RID	3077
ADNR	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)
ADNR	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
	9
RID	9
	9
ADNR	9
	9
IMDG	9
	9
IATA	9
	9

**14.4. Packaging group**

ADR	III
RID	III
ADNR	III
IMDG	III
IATA	III

**14.5. Environmental hazards**

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

**14.6. Special precautions for user**

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

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

not applicable

## SECTION 15: Regulatory information

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

VOC content 0 %  
(VOCV 814.018 VOC regulation  
CH)

### VOC Paints and Varnishes (EU):

Product (sub)category: This product is not a subject of the Directive 2004/42/EC

### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

### National regulations/information (Germany):

WGK: 2, water-endangering product. (German VwVwS of July 27, 2005 )  
Classification in conformity with the calculation method

BG regulations, rules, infos:

Observe the German BG-Chemie data sheet: M023 - Polyesters and 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:

R36/38 Irritating to eyes and skin.  
R37/38 Irritating to respiratory system and skin.  
R38 Irritating to skin.  
R41 Risk of serious damage to eyes.  
R43 May cause sensitisation by skin contact.  
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H411 Toxic to aquatic life with long lasting effects.

### Further information:

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.



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

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Terokal 5010 TR 175ML

sds no. : 77064  
V003.1

Revision: 03.12.2012  
printing date: 22.04.2013

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

#### 1.1. Product identifier

Terokal 5010 TR 175ML

#### 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

Fax-no.: +49 (211) 798 4008

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 (DPD):

C - Corrosive

R34 Causes burns.

Sensitizing

R43 May cause sensitisation by skin contact.

N - Dangerous for the

environment

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2. Label elements

**Label elements (DPD):**

C - Corrosive



N - Dangerous for the environment



**Risk phrases:**

R34 Causes burns.

R43 May cause sensitisation by skin contact.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of water.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

**Contains:**

Triethylenetetramine,  
tert-Decanoic acid, oxiranylmethyl ester, reaction products with triethylenetetramine,  
3,6,9-Triazaundecamethylenediamine

**2.3. Other hazards**

Persons suffering from allergic reactions to amines should avoid contact with the product.

**SECTION 3: Composition/information on ingredients**

**General chemical description:**

hardener component

**Base substances of preparation:**

Amines

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Fatty acids, tall-oil, reaction products with tetraethylenepentamine 68953-36-6	273-201-6	> 25 %	Serious eye damage/eye irritation 1 H318 Chronic hazards to the aquatic environment 2 H411
Triethylenetetramine 112-24-3	203-950-6	< 25 %	Acute toxicity 3; Dermal H311 Skin corrosion 1B H314 Skin sensitizer 1 H317 Chronic hazards to the aquatic environment 3 H412
tert-Decanoic acid, oxiranylmethyl ester, reaction products with triethylenetetramine 97358-72-0	306-648-3	< 20 %	Skin irritation 2; Dermal H315 Skin sensitizer 1; Dermal H317 Serious eye irritation 2 H319 Chronic hazards to the aquatic environment 2 H411
3,6,9-Triazaundecamethylenediamine 112-57-2	203-986-2	< 10 %	Acute toxicity 4; Oral H302 Acute toxicity 4; Dermal H312 Chronic hazards to the aquatic environment 2 H411 Skin corrosion 1B H314 Skin sensitizer 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.

**Declaration of ingredients according to DPD (EC) No 1999/45:**

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Fatty acids, tall-oil, reaction products with tetraethylenepentamine 68953-36-6	273-201-6	> 25 %	Xi - Irritant; R41 N - Dangerous for the environment; R51/53
Triethylenetetramine 112-24-3	203-950-6	< 25 %	Xn - Harmful; R21 C - Corrosive; R34 R43 R52/53
tert-Decanoic acid, oxiranylmethyl ester, reaction products with triethylenetetramine 97358-72-0	306-648-3	< 20 %	Xi - Irritant; R36/38, R43 N - Dangerous for the environment; R51/53
3,6,9-Triazaundecamethylenediamine 112-57-2	203-986-2	< 10 %	Xn - Harmful; R21/22 R43 C - Corrosive; R34 N - Dangerous for the environment; R51/53

For full text of the R-Phrases indicated by codes 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:**

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

**Skin contact:**

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

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**

Causes burns.

May cause sensitization by skin contact.

**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.

**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 mechanically.

Dispose of contaminated material as waste according to Chapter 13.

**6.4. Reference to other sections**

See advice in chapter 8

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Avoid skin and eye contact.

Hygiene measures:

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

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

Ensure good ventilation/extraction.  
Store in a cool, dry place.  
Storage at 15 to 25°C is recommended.

**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

None

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

**Engineering controls:**

Ensure good ventilation/extraction.

**Respiratory protection:**

Suitable breathing mask when there is inadequate ventilation.

**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.

**Skin protection:**

Wear protective equipment.

Protective clothing that covers arms and legs.

**Advices to personal protection equipment:**

Use only personal protection that's CE-labelled according to the regulation no. 819 of 19 August 1994.



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

Appearance	paste pasty
Odor	light grey of amine
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 100 °C (> 212 °F); flash point, Abel-Pensky
Decomposition temperature	No data available / Not applicable
Vapour pressure (20 °C (68 °F))	< 50 mbar
Density (20 °C (68 °F))	0,54 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Solid content (120 °C)	99 %
Oxidising properties	No data available / Not applicable

**9.2. Other information**

No data available / Not applicable

**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**

No decomposition if used according to specifications.

**10.5. Incompatible materials**

None if used properly.

**10.6. Hazardous decomposition products**

No decomposition if used according to specifications.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### General toxicological information:

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Persons suffering from allergic reactions to amines should avoid contact with the product.

#### Skin irritation:

Corrosive

#### Eye irritation:

Corrosive

#### Sensitizing:

May cause sensitization by skin contact.

#### Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Triethylenetetramine 112-24-3	LD50	2.500 mg/kg	oral		rat	
	LD50	850 mg/kg	dermal		rabbit	
3,6,9- Triazaundecamethylenedi amine 112-57-2	LD50	1.260 mg/kg	dermal		rabbit	

#### Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Triethylenetetramine 112-24-3	corrosive		rabbit	
3,6,9- Triazaundecamethylenedi amine 112-57-2	corrosive	4 h	rabbit	

#### Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Triethylenetetramine 112-24-3	sensitising	Guinea pig maximisa- tion test	guinea pig	
3,6,9- Triazaundecamethylenedi amine 112-57-2	sensitising	Guinea pig maximisa- tion test	guinea pig	

#### Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Triethylenetetramine 112-24-3	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		

## SECTION 12: Ecological information

### General ecological information:

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Do not empty into drains, soil or bodies of water.

Toxic to aquatic organisms

May cause long-term adverse effects in the aquatic environment.

### 12.1. Toxicity

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Fatty acids, tall-oil, reaction products with tetraethylenepentamine 68953-36-6	LC50	1 - 10 mg/l	Fish			
Fatty acids, tall-oil, reaction products with tetraethylenepentamine 68953-36-6	EC50	1 - 10 mg/l	Daphnia			
Fatty acids, tall-oil, reaction products with tetraethylenepentamine 68953-36-6	EC50	1 - 10 mg/l	Algae			
Triethylenetetramine 112-24-3	LC50	570 mg/l	Fish	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
Triethylenetetramine 112-24-3	EC50	31 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Triethylenetetramine 112-24-3	EC50	20 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,6,9-Triazaundecamethylenediamine 112-57-2	LC50	420 mg/l	Fish	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
3,6,9-Triazaundecamethylenediamine 112-57-2	EC50	24,1 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,6,9-Triazaundecamethylenediamine 112-57-2	EC50	6,8 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

### 12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
3,6,9-Triazaundecamethylenediamine 112-57-2	under test conditions no biodegradation observed	aerobic	0 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

### 12.3. Bioaccumulative potential / 12.4. Mobility in soil

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Triethylenetetramine 112-24-3	-2,65					
3,6,9-Triazaundecamethylenediamine 112-57-2	-3,16					

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

## Product disposal:

The valid EEC waste code numbers are not product-related but are largely source-related. These can be requested from the manufacturer.

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

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

ADR	3259
RID	3259
ADNR	3259
IMDG	3259
IATA	3259

**14.2. UN proper shipping name**

ADR	POLYAMINES, SOLID, CORROSIVE, N.O.S. (Triethylenetetramine,Fatty acids, tall-oil, reaction products with tetraethylenepentamine)
RID	POLYAMINES, SOLID, CORROSIVE, N.O.S. (Triethylenetetramine,Fatty acids, tall-oil, reaction products with tetraethylenepentamine)
ADNR	POLYAMINES, SOLID, CORROSIVE, N.O.S. (Triethylenetetramine,Fatty acids, tall-oil, reaction products with tetraethylenepentamine)
IMDG	POLYAMINES, SOLID, CORROSIVE, N.O.S. (Triethylenetetramine,Fatty acids, tall-oil, reaction products with tetraethylenepentamine)
IATA	Polyamines, solid, corrosive, n.o.s. (Triethylenetetramine,Fatty acids, tall-oil, reaction products with tetraethylenepentamine)

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

ADR	8
	8
RID	8
	8
ADNR	8
	8
IMDG	8
	8
IATA	8
	8

**14.4. Packaging group**

ADR	III
RID	III
ADNR	III
IMDG	III
IATA	III

**14.5. Environmental hazards**

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADNR	Environmentally Hazardous
IMDG	Environmentally Hazardous
IATA	not applicable

**14.6. Special precautions for user**

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

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

not applicable

**SECTION 15: Regulatory information**

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

VOC content 0 %  
(VOCV 814.018 VOC regulation  
CH)

**VOC Paints and Varnishes (EU):**

Product (sub)category: This product is not a subject of the Directive 2004/42/EC

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

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

WGK: 2, water-endangering product. (German VwVwS of July 27, 2005 )  
Classification in conformity with the calculation method

BG regulations, rules, infos: Observe the German BG-Chemie data sheet: M004 - Irritant substances,  
corrosive substances

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:

- R21 Harmful in contact with skin.
- R21/22 Harmful in contact with skin and if swallowed.
- R34 Causes burns.
- R36/38 Irritating to eyes and skin.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- 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.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

### Further information:

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.