

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**5 Min. Epoxy Hardener**

Revision date: 10.02.2020

Product code: 155110

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

5 Min. Epoxy Hardener

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Curing agent

**Uses advised against**

No information available.

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

Company name:	R&G Faserverbundwerkstoffe GmbH	
	Composite Technology	
Street:	Im Meißel 7 - 13	
Place:	D-71111 Waldenbuch	
Post-office box:	1145	
	D-71107 Waldenbuch	
Telephone:	+49 (0)7157 5304-60	Telefax: +49 (0)7157 5304-70
e-mail:	info@r-g.de	
Internet:	www.r-g.de	
Responsible Department:	Management	

**1.4. Emergency telephone number:**

Vergiftungs-Informations-Zentrale Freiburg  
Tel: +49 (0)761 19240

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1B

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Harmful to aquatic life with long lasting effects.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro.-omega.-hydroxy-, ether with  
2,2-bis(hydroxymethyl)-1,3-propanediol (4:1),2-hydroxy-3-mercaptopropyl ether

**Signal word:** Warning**Pictograms:****Hazard statements**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

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H319 Causes serious eye irritation.  
 H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P261 Avoid breathing vapour.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P501 Dispose of waste according to applicable legislation.

**2.3. Other hazards**

Results of PBT and vPvB assessment: not applicable

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Hazardous components**

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
72244-98-5	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro.-omega.-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1),2-hydroxy-3-mercaptopropyl ether	50 - 100 %
	701-196-7	
	01-2120118957-46	
	Skin Sens. 1B, Aquatic Chronic 3; H317 H412	
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	10 - 25 %
	202-013-9	
	603-069-00-0	
	01-2119560597-27	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H302 H315 H319	

Full text of H and EUH statements: see section 16.

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

Remove contaminated, saturated clothing immediately.

**After inhalation**

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. If skin irritation occurs: Get medical advice/attention.

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

**After ingestion**

Immediately call a doctor.

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

No information available.

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

Treat symptomatically.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### **Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. Water spray. In case of major fire and large quantities: Water spray jet, alcohol resistant foam.

##### **Unsuitable extinguishing media**

Full water jet

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

In case of fire may be liberated: Gases/vapours, toxic

#### 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

#### **Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Use personal protection equipment.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dilute with plenty of water.

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

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### **Advice on safe handling**

Provide adequate ventilation. Avoid contact with skin, eyes and clothes. Do not breathe gas/fumes/vapour/spray. Use personal protection equipment.

##### **Advice on protection against fire and explosion**

No special fire protection measures are necessary.

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

##### **Requirements for storage rooms and vessels**

Keep container tightly closed and dry. Keep/Store only in original container.

##### **Hints on joint storage**

Do not store together with:

Oxidising agent

Food and feedingstuffs

##### **Further information on storage conditions**

Protect against: frost.

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

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Curing agent

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol			
Worker DNEL,		inhalation		0,31 mg/m <sup>3</sup>

**PNEC values**

CAS No	Substance	Environmental compartment	Value
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol		
		Freshwater	0,84 mg/l

**8.2. Exposure controls****Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations.

**Protective and hygiene measures**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. When using do not eat, drink or smoke. When using do not eat or drink. Avoid contact with eyes and skin. Do not breathe gas/fumes/vapour/spray. Keep away from food, drink and animal feedingstuffs.

**Eye/face protection**

Tightly sealed safety glasses.

**Hand protection**

Wear suitable gloves.

Suitable material:

NBR (Nitrile rubber), FKM (fluoro rubber).

Thickness of the glove material  $\geq 0,5$  mm

Suitable material: PVC (Polyvinyl chloride).

Wearing time with permanent contact:  $\leq 15$  min

Unsuitable material: Thick fabric, Leather articles

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Protect skin by using skin protective cream.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Skin protection**

Wear suitable protective clothing.

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**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Combination filtering device (EN 14387) A-P2

**Environmental exposure controls**

Avoid release to the environment.

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

Physical state:	Liquid
Colour:	light yellow
Odour:	like: rotten eggs

**Test method**

pH-Value: not determined

**Changes in the physical state**

Melting point: not determined

Initial boiling point and boiling range: &gt; 100 °C

Flash point: &gt; 90 °C

**Flammability**

Solid: not applicable

Gas: not applicable

**Explosive properties**

The product is not: Explosive.

Lower explosion limits: not determined

Upper explosion limits: not determined

Ignition temperature: not determined

**Auto-ignition temperature**

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

**Oxidizing properties**

Not oxidising.

Vapour pressure: not determined

Density (at 23 °C): 1,13 g/cm<sup>3</sup> ISO 2811-2

Water solubility: Immiscible

**Solubility in other solvents**

not determined

Partition coefficient: not determined

Viscosity / dynamic:  
(at 23 °C) 1000-1600 mPa·s ISO 3219

Viscosity / kinematic: not determined

Vapour density: not determined

Evaporation rate: not determined

**9.2. Other information**

Odour threshold: not determined

**SECTION 10: Stability and reactivity**

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**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Reacts with : Oxidising agent

**10.4. Conditions to avoid**

Protect against: frost.

**10.5. Incompatible materials**

Oxidising agent

**10.6. Hazardous decomposition products**

In case of fire may be liberated: Gases/vapours, toxic, Carbon monoxide, Nitrogen oxides (NOx)

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

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
72244-98-5	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1),2-hydroxy-3-mercaptopropyl ether				
	oral	LD50 mg/kg	2600	Rat	Manufacturer
	dermal	LD50 mg/kg	10200	Rabbit	Manufacturer
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol				
	oral	ATE mg/kg	500		

**Irritation and corrosivity**

Causes skin irritation.

Causes serious eye irritation.

**Sensitising effects**

May cause an allergic skin reaction. (Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1),2-hydroxy-3-mercaptopropyl ether)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information****12.1. Toxicity**

Harmful to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
72244-98-5	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1),2-hydroxy-3-mercaptopropyl ether					
	Acute fish toxicity	LC50	87 mg/l	96 h	Brachydanio rerio (zebra-fish)	Manufacturer
	Acute crustacea toxicity	EC50	12 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

No information available.

**12.4. Mobility in soil**

No information available.

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

not applicable

**12.6. Other adverse effects**

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

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

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

080299 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of other coatings (including ceramic materials); wastes not otherwise specified

**List of Wastes Code - used product**

080299 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of other coatings (including ceramic materials); wastes not otherwise specified

**Contaminated packaging**

Dispose of waste according to applicable legislation.

**SECTION 14: Transport information****Land transport (ADR/RID)**

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

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**Inland waterways transport (ADN)**

<b>14.1. UN number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

<b>14.1. UN number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number:</b>	UN 3334
<b>14.2. UN proper shipping name:</b>	AVIATION REGULATED LIQUID, N.O.S. (MERCAPTAN-TERMINATED POLYMER)
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	III
Hazard label:	9



Special Provisions:	A27	
Limited quantity Passenger:	30 kg G	
Passenger LQ:	Y964	
Excepted quantity:	E1	
IATA-packing instructions - Passenger:		964
IATA-max. quantity - Passenger:		450 L
IATA-packing instructions - Cargo:		964
IATA-max. quantity - Cargo:		450 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

No information available.

**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****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3: Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1),2-hydroxy-3-mercaptopropyl ether; 2,4,6-tris(dimethylaminomethyl)phenol

2004/42/EC (VOC):	0 %
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**



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Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water contaminating class (D): 1 - slightly water contaminating

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Abbreviations and acronyms**

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1B; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

**Relevant H and EUH statements (number and full text)**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*