

Safety Data Sheet

according to Regulation (EC) No 1907/2006

5 Min. Epoxy Hardener

Revision date: 06.06.2019

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 dust/fume/gas/mist/vapours/spray.
 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 (CO₂). 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 ³

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: ≤ 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: > 100 °C

Flash point: > 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/cm³ 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****Advice on disposal**

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.

Waste disposal number of waste from 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

Waste disposal number of 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.

Inland waterways transport (ADN)

- 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.

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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.

Marine transport (IMDG)

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.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3334

14.2. UN proper shipping name: AVIATION REGULATED LIQUID, N.O.S. (MERCAPTAN-TERMINATED POLYMER)

14.3. Transport hazard class(es): 9

14.4. Packing group: 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

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

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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 present level of our knowledge. It does not, however, give assurances 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.)