

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener (EXTRA 600)**

Revision date: 08.05.2020

Product code: B10710

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

Hardener (EXTRA 600)

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

Hardener

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

Company name:	R&G Faserverbundwerkstoffe GmbH	
Street:	Im Meißel 7 - 13	
Place:	D-71111 Waldenbuch	
Post-office box:	1145	
	D-71107 Waldenbuch	
Telephone:	+49-7157-530460	Telefax: +49-7157-530470
e-mail:	info@r-g.de	
Internet:	www.r-g.de	
Responsible Department:	Management	

**1.4. Emergency telephone number:** Vergiftungs-Informationen-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 Corr. 1B

Serious eye damage/eye irritation: Eye Dam. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes severe skin burns and eye damage.

Causes serious eye damage.

Harmful to aquatic life with long lasting effects.

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

Polyoxypropylenediamine

**Signal word:** Danger**Pictograms:****Hazard statements**

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

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/doctor.

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P363 Wash contaminated clothing before reuse.  
 P405 Store locked up.  
 P501 Dispose of waste according to applicable legislation.

### 2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
9046-10-0	Polyoxypropylenediamine			75 - 100 %
	618-561-0		01-2119557899-12	
	Skin Corr. 1B, Eye Dam. 1, Aquatic Chronic 3; H314 H318 H412			

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Take off immediately all contaminated clothing and wash it before reuse.

#### After inhalation

If unconscious place in recovery position and seek medical advice.

#### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Immediately call a doctor.

#### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### After ingestion

Rinse mouth immediately and drink plenty of water. Immediately call a doctor.

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

No information available.

Notes for the doctor: Treat symptomatically.

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

No information available.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

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

Co-ordinate fire-fighting measures to the fire surroundings.

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

In case of fire may be liberated: Gases/vapours, toxic, Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide.

### 5.3. Advice for firefighters

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

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**Additional information**

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**

Wear respiratory protection. Use personal protection equipment. Remove persons to safety.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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). Before discharge into sewage plants the product normally needs to be neutralised. Treat the recovered material as prescribed in the section on waste disposal. Provide adequate ventilation.

**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 as well as local exhaustion at critical locations. The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration. Avoid: generation/formation of aerosols.

**Advice on protection against fire and explosion**

Use appropriate respiratory protection.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed.

**Hints on joint storage**

Do not store together with: Oxidising agent, Acid.

Corrosive substances: Copper, nickel, Zinc, Tin metals (including their alloys).

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

No information available.

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

CAS No	Substance	Value
9046-10-0	Polyoxypropylenediamine	
Freshwater		0,015 mg/l
Marine water		0,0142 mg/l

**8.2. Exposure controls**

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**Protective and hygiene measures**

When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Wash hands and face before breaks and after work and take a shower if necessary. Avoid contact with eyes and skin.

**Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

Wear suitable gloves.

Suitable material: Butyl caoutchouc (butyl rubber), NBR (Nitrile rubber).

Thickness of the glove material:  $\geq 0,7$  mm

Breakthrough time (maximum wearing time):  $\geq 480$  min (EN ISO 374)

Harmful in contact with skin.

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. 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. (DIN EN 14605: Splash guard; DIN EN ISO 13982: dust formation)

**Respiratory protection**

Use appropriate respiratory protection.

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

Physical state:	Liquid	
Colour:	clear	
Odour:	like: Amines	
pH-Value:		not determined

**Changes in the physical state**

Melting point:		not determined
Initial boiling point and boiling range:		260 °C
Flash point:		128 °C

**Flammability**

Solid:		not applicable
Gas:		not applicable

**Explosive properties**

The product is not: Explosive.

Lower explosion limits:		0,4 vol. %
Upper explosion limits:		5 vol. %
Ignition temperature:		not determined

**Auto-ignition temperature**

Solid:		not applicable
Gas:		not applicable

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Decomposition temperature: not determined

**Oxidizing properties**

Not oxidising.

Vapour pressure: 0,9 hPa  
(at 20 °C)Density (at 20 °C): 0,96 g/cm<sup>3</sup>

Water solubility: partially soluble

**Solubility in other solvents**

not determined

Partition coefficient: not determined

Viscosity / dynamic: 30 mPa·s  
(at 20 °C)

Viscosity / kinematic: not determined

Vapour density: not determined

Evaporation rate: not determined

**9.2. Other information**

Solid content: 100 %

Odour threshold: not determined

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

No known hazardous reactions.

**10.4. Conditions to avoid**

No information available.

**10.5. Incompatible materials**

Do not store together with: Oxidising agent, Acid.

Corrosive substances: Copper, nickel, Zinc, Tin metals (including their alloys).

**10.6. Hazardous decomposition products**In case of fire may be liberated: Gases/vapours, toxic, Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide.**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
9046-10-0	Polyoxypropylenediamine				
	oral	LD50 mg/kg	2885	Rat	Manufacturer
	dermal	LD50 mg/kg	2980	Rabbit	Manufacturer

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**Irritation and corrosivity**

Causes severe skin burns and eye damage.  
Causes serious eye damage.

**Sensitising effects**

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

**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.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
9046-10-0	Polyoxypropylenediamine					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Piscis	Manufacturer	
	Acute algae toxicity	ErC50 135 mg/l	72 h	Algae	Manufacturer	
	Acute crustacea toxicity	EC50 15 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer	

**12.2. Persistence and degradability**

Readily biodegradable (according to OECD criteria).

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**12.4. Mobility in soil**

No information available.

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

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**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**

Collect the waste separately. 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**

080199 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; wastes not otherwise specified

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#### List of Wastes Code - used product

080199 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; wastes not otherwise specified

#### Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

For cleaning up: Water with tenside additive.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8



Classification code: C7  
 Special Provisions: 274  
 Limited quantity: 5 L  
 Excepted quantity: E1  
 Transport category: 3  
 Hazard No: 80  
 Tunnel restriction code: E

#### Inland waterways transport (ADN)

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8



Classification code: C7  
 Special Provisions: 274  
 Limited quantity: 5 L  
 Excepted quantity: E1

#### Marine transport (IMDG)

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8

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Special Provisions: 223, 274  
 Limited quantity: 5 L  
 Excepted quantity: E1  
 EmS: F-A, S-B

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

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8



Special Provisions: A3 A803  
 Limited quantity Passenger: 1 L  
 Passenger LQ: Y841  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 852  
 IATA-max. quantity - Passenger: 5 L  
 IATA-packing instructions - Cargo: 856  
 IATA-max. quantity - Cargo: 60 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

SG35 Stow "separated from" SGG1-acids

**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: Polyoxypropylenediamine

**National regulatory information**

Water hazard class (D): 2 - obviously hazardous to water

**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



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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 Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Aquatic Chronic 3; H412	Calculation method

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

H314 Causes severe skin burns and eye damage.  
 H318 Causes serious eye damage.  
 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.)*