

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 1 of 11

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

Hardener P (30 min)

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

Hardener (Crosslinker )

**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-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

Respiratory or skin sensitisation: Skin Sens. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Harmful if swallowed.

Causes severe skin burns and eye damage.

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**

3-aminomethyl-3,5,5-trimethylcyclohexylamine

1,3-Benzoldimethanamin

2,2,4-Trimethylhexan-1,6-diamin

Phenol, styrolisiert

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

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 2 of 11

H317 May cause an allergic skin reaction.  
 H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 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.

**2.3. Other hazards**

No information available.

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

CAS No	Chemical name	Quantity
	EC No	Index No
		REACH No
	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	25-50%
	220-666-8	612-067-00-9
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412	
61788-44-1	Phenol, styrenated	10-25%
	262-975-0	01-2119979575-18
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411	
25513-64-8	2,2,4-trimethylhexane-1,6-diamine	2,5-10%
	247-063-2	01-2119560598-25
	Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H302 H314 H317 H412	
69-72-7	Salicylsäure	2,5-10%
	200-712-3	
	Acute Tox. 4, Eye Dam. 1; H302 H318	

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

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

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

**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 polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

**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. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Hardener P (30 min)

Revision date: 15.06.2018

Product code: 115162

Page 3 of 11

### **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.

## SECTION 5: Firefighting measures

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

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

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

Non-flammable. In case of fire: Formation of: Gases/vapours, toxic.

### **5.3. Advice for firefighters**

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

#### **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**

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

### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

### **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**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

#### **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. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations.

#### **Advice on storage compatibility**

No special measures are necessary.

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

Hardener (Crosslinker )

## SECTION 8: Exposure controls/personal protection

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 4 of 11

**8.1. Control parameters****8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Protective and hygiene measures**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

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.

Suitable material: NBR (Nitrile rubber), FKM (fluoro rubber)

Thickness of the glove material: > 0,5 mm

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

Combination filtering device (EN 14387) A-P2

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

Physical state:	Liquid
Colour:	light yellow
Odour:	like: Amines

	<b>Test method</b>
pH-Value:	not determined
<b>Changes in the physical state</b>	
Melting point:	not determined
Initial boiling point and boiling range:	> 200 °C
Flash point:	> 100 °C
<b>Flammability</b>	
Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	1,2 vol. %
Upper explosion limits:	not determined
Ignition temperature:	365 °C

**Auto-ignition temperature**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 5 of 11

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

**Oxidizing properties**

Not oxidising.

Vapour pressure: not determined

Density (at 20 °C): 1 g/cm<sup>3</sup> DIN 5

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

**Solubility in other solvents**

not determined

Partition coefficient: not determined

Viscosity / dynamic: 4000-5000 mPa·s DIN 53018  
(at 20 °C)

Vapour density: not determined

Evaporation rate: not determined

**9.2. Other information**

Solid content: 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**

none

**10.5. Incompatible materials**

Oxidising agent, strong

**10.6. Hazardous decomposition products**

No known hazardous decomposition products.

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 6 of 11

**Acute toxicity**

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine				
	oral	LD50 mg/kg	1030	Rat	OECD 401
	dermal	LD50 mg/kg	1840	Rabbit	Manufacturer
	inhalation (4 h) aerosol	LC50 mg/l	> 5,01	Rat	OECD 403
61788-44-1	Phenol, styrenated				
	oral	LD50 mg/kg	2197	Rat	Quantitative structure-activity relationship (QSAR)
	dermal	LD50 mg/kg	3166	Rat	Quantitative structure-activity relationship (QSAR)
25513-64-8	2,2,4-trimethylhexane-1,6-diamine				
	oral	LD50 mg/kg	1200	Rat	IUCLID
69-72-7	Salicylsäure				
	oral	LD50 mg/kg	891	(rat)	
	dermal	LD50 mg/kg	>2000	(rat)	

**Additional information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

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

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Hardener P (30 min)

Revision date: 15.06.2018

Product code: 115162

Page 7 of 11

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine					
	Acute fish toxicity	LC50 110 mg/l	96 h	Leuciscus idus (golden orfe)	Regulation (EC) No. 440/2008, Annex, C.1	
	Acute algae toxicity	ErC50 > 50 mg/l	72 h	Scenedesmus subspicatus	Regulation (EC) No. 440/2008, Annex, C.3	
	Acute crustacea toxicity	EC50 388 mg/l	48 h	Chaetogammarus marinus	IUCLID	
61788-44-1	Phenol, styrenated					
	Acute fish toxicity	LC50 4 mg/l	96 h	Pimephales promelas (fathead minnow)	Quantitative structure-activity relationship (QSAR)	
	Acute algae toxicity	ErC50 1,637 mg/l	72 h	Pseudokirchneriella subcapitata	Quantitative structure-activity relationship (QSAR)	
	Acute crustacea toxicity	EC50 1,878 mg/l	48 h	Daphnia magna	Quantitative structure-activity relationship (QSAR)	
25513-64-8	2,2,4-trimethylhexane-1,6-diamine					
	Acute algae toxicity	ErC50 29,5 mg/l	72 h	Desmodesmus subspicatus	IUCLID	
69-72-7	Salicylsäure					
	Acute fish toxicity	LC50 1380 mg/l	96 h	Pimephales promelas (fathead minnow)		
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus		

### 12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine				
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	8 %	28	IUCLID	
	Not readily biodegradable (according to OECD criteria)				
61788-44-1	Phenol, styrenated				
	OECD 301C/ ISO 9408/ EEC 92/69/V, C.4-F	73 %	14		
	Readily biodegradable (according to OECD criteria).				
25513-64-8	2,2,4-trimethylhexane-1,6-diamine				
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	7%	28		
	Not readily biodegradable (according to OECD criteria)				

### 12.3. Bioaccumulative potential

The product has not been tested.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 8 of 11

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	0,8

**BCF**

CAS No	Chemical name	BCF	Species	Source
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	3,16	Quantitative structure-activity relationship (QSAR)	IUCLID
61788-44-1	Phenol, styrenated	26,5	Carassius auratus (goldfish)	Quantitative structure-activity relationship (QSAR)

**12.4. Mobility in soil**

The product has not been tested.

**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 contaminated packaging**

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**

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

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

<b>14.1. UN number:</b>	UN 2735
<b>14.2. UN proper shipping name:</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Hardener P (30 min)

Revision date: 15.06.2018

Product code: 115162

Page 9 of 11



Classification code:	C7
Special Provisions:	274
Limited quantity:	1 L
Transport category:	2
Hazard No:	80
Tunnel restriction code:	E

#### Other applicable information (land transport)

E2

#### Inland waterways transport (ADN)

<b>14.1. UN number:</b>	UN 2735
<b>14.2. UN proper shipping name:</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8



Classification code:	C7
Special Provisions:	274
Limited quantity:	1 L

#### Other applicable information (inland waterways transport)

E2

#### Marine transport (IMDG)

<b>14.1. UN number:</b>	UN 2735
<b>14.2. UN proper shipping name:</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8



Special Provisions:	274
Limited quantity:	1 L
EmS:	F-A, S-B

#### Other applicable information (marine transport)

E2

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

<b>14.1. UN number:</b>	UN 2735
<b>14.2. UN proper shipping name:</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 10 of 11



Special Provisions:	A3 A803	
Limited quantity Passenger:	0.5 L	
IATA-packing instructions - Passenger:		851
IATA-max. quantity - Passenger:		1 L
IATA-packing instructions - Cargo:		855
IATA-max. quantity - Cargo:		30 L

**Other applicable information (air transport)**

E2

Passenger-LQ: Y840

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

Warning: strongly corrosive.

**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: 3-aminomethyl-3,5,5-trimethylcyclohexylamine

2004/42/EC (VOC): 50-80 %

**Additional information**

To follow: 850/2004/EC , 79/117/EEC , 689/2008/EC

Regulation (EC) No. 2037/2000 concerning materials, which cause damage to the ozone layer.

Regulation (EC) No. 648/2004 (Detergents regulation)

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 2 - clearly 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**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener P (30 min)**

Revision date: 15.06.2018

Product code: 115162

Page 11 of 11

LD50: Lethal dose, 50%

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

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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