

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Hardener EPH 161**

Revision date: 05.03.2019

Product code: 112125

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

Hardener EPH 161

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

Hardener

**Uses advised against**

No information available.

**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-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:

Acute toxicity: Acute Tox. 4

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.

Causes serious 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

Amines, polyethylenepoly-, triethylenetetramine fraction

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

H302

Harmful if swallowed.

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H314 Causes severe skin burns and eye damage.  
 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.  
 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.  
 P321 Specific treatment (see on this label).  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P405 Store locked up.  
 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****Chemical characterization**

Hardener

**Hazardous components**

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	GHS Classification	
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	50 - 100 %
	220-666-8	612-067-00-9
	01-2119514687-32	
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1A, Aquatic Chronic 3; H312 H302 H314 H318 H317 H412	
90640-67-8	Amines, polyethylenepoly-, triethylenetetramine fraction	<= 2,5 %
	292-588-2	01-2119487919-13
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 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.

**After inhalation**

Remove casualty to fresh air and keep warm and at rest. 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. In case of skin irritation, consult a physician.

**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.

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**After ingestion**

Let water be drunk in little sips (dilution effect). Provide fresh air. Call a physician immediately.

**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**

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

**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**

Use suitable breathing apparatus.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Dispose of waste according to applicable legislation.

**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.

**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. Provide adequate ventilation. Clean contaminated articles and floor according to the environmental legislation.

**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. Use personal protection equipment. Do not breathe gas/fumes/vapour/spray.

Avoid contact with skin, eyes and clothes.

**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. Store in a dry place. Keep/Store only in original container. Provide for retaining containers, eg. floor pan without outflow.

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### Hints on joint storage

Do not store together with: Food and feedingstuffs

### Further information on storage conditions

Protect against: Frost

### 7.3. Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			
Worker DNEL,		inhalation		20,1 mg/m <sup>3</sup>
90640-67-8	Amines, polyethylenepoly-, triethylenetetramine fraction			
Worker DNEL,		dermal		0,57 mg/kg bw/day
Worker DNEL,		inhalation		1 mg/m <sup>3</sup>

#### PNEC values

CAS No	Substance	Environmental compartment	Value
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	Freshwater	0,06 mg/l
		Marine water	0,006 mg/l
90640-67-8	Amines, polyethylenepoly-, triethylenetetramine fraction	Freshwater	0,19 mg/l
		Marine water	0,038 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. Protect skin by using skin protective cream. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Keep away from food, drink and animal feedingstuffs. Avoid contact with skin, eyes and clothes.

#### Eye/face protection

Tightly sealed safety glasses.

#### Hand protection

Wear protective gloves.

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

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

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Unsuitable material: Leather articles

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. (Category III) 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. Check leak tightness/impermeability prior to use. Breakthrough times and swelling properties of the material must be taken into consideration.

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

short-term:

Filtering device (full mask or mouthpiece) with filter: A-P2

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

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

pH-Value:	not determined	<b>Test method</b>
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**Changes in the physical state**

Melting point:	not determined
Initial boiling point and boiling range:	> 250 °C
Flash point:	> 100 °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:	The product is not: Spontaneously flammable.
Gas:	The product is not: Spontaneously flammable.

Decomposition temperature:	not determined
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**Oxidizing properties**

Not oxidising.

Vapour pressure:	not determined
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Density (at 23 °C):	0,94 g/cm <sup>3</sup> ISO 2811-2
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Water solubility:	Immiscible
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**Solubility in other solvents**

not determined

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Partition coefficient:	not determined
Viscosity / dynamic: (at 25 °C)	30 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****10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Thermal decomposition: none

**10.3. Possibility of hazardous reactions**

No known hazardous reactions.

**10.4. Conditions to avoid**

No information available.

**10.5. Incompatible materials**

Oxidising agent, strong

**10.6. Hazardous decomposition products**

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

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

Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 1962,1 mg/kg

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	Manufacturer	
	dermal	LD50 mg/kg 1840	Rabbit	Manufacturer	
90640-67-8	Amines, polyethylenepoly-, triethylenetetramine fraction				
	oral	LD50 mg/kg 1716	Rat	Manufacturer	
	dermal	LD50 mg/kg 1465	Rabbit	Manufacturer	

**Irritation and corrosivity**

Causes severe skin burns and eye damage.

**Sensitising effects**

May cause an allergic skin reaction. (3-aminomethyl-3,5,5-trimethylcyclohexylamine; Amines, polyethylenepoly-, triethylenetetramine fraction)

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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine					
	Acute algae toxicity	ErC50 > 50 mg/l	72 h	Scenedesmus subspicatus	Manufacturer	
	Acute crustacea toxicity	EC50 23 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer	OECD 202
90640-67-8	Amines, polyethylenepoly-, triethylenetetramine fraction					
	Acute algae toxicity	ErC50 20 mg/l	72 h	Pseudokirchneriella subcapitata	Manufacturer	
	Acute crustacea toxicity	EC50 31,1 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.  
hazardous to water (WGK 2)**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.

Liquid: Send to a hazardous waste incinerator facility under observation of official regulations .

**Waste disposal number of waste from residues/unused products**

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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)

<b>14.1. UN number:</b>	UN 2735
<b>14.2. UN proper shipping name:</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONDIAMIN)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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)

<b>14.1. UN number:</b>	UN 2735
<b>14.2. UN proper shipping name:</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONDIAMIN)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
	
Classification code:	C7
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

#### 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. (ISOPHORONEDIAMINE)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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. (ISOPHORONEDIAMINE)  
**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**

Warning: Substances, 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: CeTePox® 1045-01 H

2004/42/EC (VOC): 0,00 %  
 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): 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**

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**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%  
 LD50: Lethal dose, 50%

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

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

**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.  
 H318 Causes serious eye damage.  
 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.)*