

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener EPH 385

Print date: 04.03.2013

Product code: 110152-GHS-2013

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1. Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Hardener EPH 385

Use of the substance/mixture

epoxy resin hardener

Company/undertaking identification

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:	+49-7157-530460	Telefax: +49-7157-530470
e-mail:	info@r-g.de	
Internet:	www.r-g.de	
Responsible Department:	Management	
1.4. Emergency telephone number:	poison information centre	

2. Hazards identification

Classification

Indications of danger: Corrosive

R phrases:

Harmful in contact with skin and if swallowed.

Causes burns.

May cause sensitisation by skin contact.

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

GHS:

Hazard categories:

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1B

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory/skin sensitization: Skin Sens. 1

Reproductive toxicity: Repr. 2

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Harmful if swallowed or in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility. Suspected of damaging the unborn child.

Toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients

Chemical characterization (Mixture)

epoxy resin hardener

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Hazardous components

EC No	CAS No	Chemical name	Quantity
		Classification GHS classification	
220-666-8	2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	50-70 %
		C - Corrosive, Xn - Harmful R21/22-34-43-52-53	
		Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412	
246-672-0	25154-52-3	nonylphenol	0,2-1 %
		Repr. Cat. 3, C - Corrosive, Xn - Harmful, N - Dangerous for the environment R62-63-22-34-50-53	
		Repr. 2, Acute Tox. 4, Skin Corr. 1B, Aquatic Acute 1, Aquatic Chronic 1; H361fd H302 H314 H400 H410	
202-859-9	100-51-6	benzyl alcohol	7-10 %
		Xn - Harmful R20/22	
		Acute Tox. 4, Acute Tox. 4; H332 H302	
	38294-64-3	Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (chloromethyl)oxirane	3-5 %
		C - Corrosive, Xn - Harmful, N - Dangerous for the environment R21/22-34-43	
	69-72-7	Salicylsäure	1-2 %
		Xn - Harmful, Xi - Irritant R22-37/38-41	

Full text of R and H phrases: see Section 16.

4. First aid measures

General information

Take the injured person out of the danger area and lay him/her down. Take off immediately all contaminated clothing

After inhalation

Provide fresh air. Consult physician. If victim is at risk of losing consciousness, position and transport on their side.

After contact with skin

After contact with skin, wash immediately with soap and plenty of water. Cover wound with sterile dressing. Consult physician. Immediate medical treatment required because injuries that are not treated are hard to cure.

After contact with eyes

After contact with eye rinse immediately with lot of water at least 5 minutes with open eyelid. Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink large quantities of water. Immediately get medical attention. Do not induce vomiting.

5. Fire-fighting measures

Suitable extinguishing media

Carbon dioxide (CO₂).
Extinguishing powder.
Water fog.
Fight major fires with a water spray jet or alcohol-resistant foam.

Special exposure hazards arising from substance or mixture itself, combustion products, resulting gases

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In case of fire may form:
Nitrogen oxides (NO_x).
Carbon monoxide.
Ammonia.

Special protective equipment for fire-fighters

Wear a protective full body suit.
Wear breathing apparatus with own air supply.

Additional information

Contaminated fire-fighting water must be collected separately. Contaminated fire-fighting water must not get into the sewerage network. Fire residue and contaminated firefighting water must be disposed of in accordance with government regulations.

6. Accidental release measures

Personal precautions

Wear personal protection equipment. Keep unprotected persons at a safe distance. Use appropriate respiratory protection.

6.2. Environmental precautions

Do not empty into drains or the aquatic environment. Do not allow to enter the soil or subsoil. Do not allow to enter groundwater.

Methods for cleaning up/taking up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Dispose of contaminated material as § 13 waste.

7. Handling and storage

Handling

Advice on safe handling

Provide for sufficient ventilation and punctiform suction at critical points. Handle open container with care.

Advice on protection against fire and explosion

No special measures are necessary.

Storage

Requirements for storage rooms and vessels

Ventilate adequately storage and work rooms. Employ reliable measures to prevent the product from entering the soil.

Further information on storage conditions

Keep in well sealed receptacles at a cool, dry location.

Storageclass (D):

8

8. Exposure controls/personal protection

Exposure limit values

8.2. Exposure controls

Protective and hygiene measures

Take off immediately all contaminated clothing. Avoid contact with skin and eyes. "Wash hands when done working with material; at breaks, lunch, shift changes, etc." Do not breathe in gases/vapours/aerosols.

Respiratory protection

Not necessary when the room is well ventilated.

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Hand protection

Wear protective gloves. (EN 374)
Material: NBR (Nitrile rubber). Butyl rubber.
Breakthrough time: See information supplied by the manufacturer.

Eye protection

Tightly sealed safety glasses. (EN 166)

Skin protection

Wear protective clothing. (EN 368/9)

9. Physical and chemical properties

General information

Physical state: liquid
Colour: yellow
Odour: amine-like

Important health, safety and environmental information

Test method

Changes in the physical state

Boiling point:	>200 °C	DIN 53171
Flash point:	100 °C	ISO 2719
Vapour pressure: (at 20 °C)	0,3 hPa	
Density (at 20 °C):	0,96 g/cm ³	DIN 53217
Water solubility:	partially miscible	
Viscosity / dynamic: (at 20 °C)	11 - 18 mPa·s	ISO 9371

9.2. Other information

Ignition temperature: 380 °C DIN 51794

10. Stability and reactivity

10.4. Conditions to avoid

no decomposition when stored and handled properly

Materials to avoid

strong exothermic reaction with: acid.

10.6. Hazardous decomposition products

Gas / vapours, corrosive.

11. Toxicological information

Specific effects in experiment on an animal

111-40-0 2,2'-iminodiethylamine, diethylenetriamine:
oral: 1.080 mg/kg (rat) LD50
dermal: 1.090 mg/kg (rabbit) LD50

Irritation and corrosivity

Caustic effect on eyes, skin, and mucous membranes.

Sensitising effects

Contact may cause skin sensitisation.

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Additional information on tests

When swallowed strong caustic effect on oral cavity and throat and risk of oesophagus and stomach perforation.

12. Ecological information

Further information

Do not let the product enter the groundwater, open water, or the sewerage system. Not even small quantities!

13. Disposal considerations

Advice on disposal

Dispose of waste according to applicable local, state, and federal regulations. e.g. transfer to a suitable incineration plant Waste key numbers are assigned according to the European Waste Catalogue (EWC) depending on the sector and process type.

Contaminated packaging

Dispose of waste according to applicable local, state, and federal regulations.

14. Transport information

Land transport (ADR/RID)

14.1. UN number: 2735
ADR/RID class: 8
Warning plate
Hazard No: 80
Hazard label: 8



ADR/RID packing group: III
Tunnel restriction code: E

Description of the goods

POLYAMINE FLÜSSIG ÄTZEND N.A.G (Isophorondiamin)

Marine transport (IMDG)

14.1. UN number: 2735
IMDG code: 8
Marine pollutant: no
Hazard label: 8



IMDG packing group: III
EmS: F-A, S-B

Description of the goods

POLYAMINES LIQUID CORROSIVE N.O.S.(Isophorondiamin)

Air transport (ICAO)

UN/ID number: 2735

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ICAO/IATA-DGR: 8
Hazard label: 8



ICAO packing group: III

Description of the goods

POLYAMINES LIQUID CORROSIVE N.O.S.(Isophorondiamin)

15. Regulatory information

Labelling

Danger symbols: C - Corrosive



C - Corrosive

Hazardous components which must be listed on the label

2,2'-iminodiethylamine, diethylenetriamine

R phrases

- 21/22 Harmful in contact with skin and if swallowed.
- 34 Causes burns.
- 43 May cause sensitisation by skin contact.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S phrases

- 23 Do not breathe Gas/Rauch/Dampf/Aerosol.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.
- 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

Additional advice on labelling

The product is classified and labelled under the EC Directives/hazardous substances laws (GefStoffV).

GHS labelling

Signal word: Danger
Pictograms: corrosion; exclamation mark; health hazard; environment



Hazard statements

- H302+H312 Harmful if swallowed or in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P331	Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P333	If skin irritation or rash occurs:
P352	Wash with plenty of soap and water.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see ... on this label).
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 or doctor/physician.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container to

EU regulatory information

Additional information

EC-identification.

National regulatory information

Water contaminating class (D): 3 - highly water contaminating

Additional information

APME document: "Epoxidharze und Härter (Toxikologie, Arbeitssicherheit, Umwelt)" ("Epoxy resins and hardeners (toxicology, work safety, environment)")

BG code of practice: M004 ("Irritant substances / caustic substances") (ZH 1/229)

BG code of practice: M023 ("Polyester and epoxy resins") (ZH 1/301)

16. Other information

Full text of R phrases referred to under Sections 2 and 3

20/22	Harmful by inhalation and if swallowed.
21/22	Harmful in contact with skin and if swallowed.
22	Harmful if swallowed.
34	Causes burns.
37/38	Irritating to respiratory system and skin.
41	Risk of serious damage to eyes.
43	May cause sensitisation by skin contact.
50	Very toxic to aquatic organisms.
52	Harmful to aquatic organisms.

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- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 53 May cause long-term adverse effects in the aquatic environment.
- 62 Possible risk of impaired fertility.
- 63 Possible risk of harm to the unborn child.

Full text of H statements referred to under Sections 2 and 3

- H302 Harmful if swallowed.
- H302+H312 Harmful if swallowed or in contact with skin.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H332 Harmful if inhaled.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Further Information

All information, recommendations, and advice on the part of R&G Faserverbundwerkstoffe GmbH are published to the best of our knowledge and belief. They are noncommittal and contain neither explicit nor tacit assurance or warranty of particular properties. The values specified for properties are typical figures. Recommendations or advice serve to describe our products and possible applications in a general or exemplary, but not specifically individual manner. In the course of the constant technical advancement and improvement of our products there may be changes to the characteristic values, copy, and diagrams; no specific reference is made to any such change. Owing to our products' wide and highly diverse range of potential applications far beyond any of our attempts to analyse, the customer alone is responsible for examining our products' suitability for the respective processes and purposes and their respective processibility. All and any protective rights and the applicable laws, terms, and conditions must be observed by the buyer or user of our products at their own responsibility. Publication is not a licence and does not intend the violation of any patents.

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