

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 1 of 8

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

Identification of the substance or mixture

Hardener EPH 573

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	
Emergency telephone:	poison information centre	

2. Hazards identification

Classification

Indications of danger : Corrosive

R-phrases:

Harmful in contact with skin.

Harmful if swallowed.

Causes burns.

May cause sensitization by skin contact.

GHS: Hazard categories:

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

Hazard Statements:

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

3. Composition/information on ingredients

Chemical characterization (Mixture)

epoxy resin hardener

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 2 of 8

Hazardous components

EC No.	CAS No.	Chemical name	Quantity
		Classification	
		GHS classification	
203-865-4	111-40-0	2,2'-iminodiethylamine, diethylenetriamine	25-50%
		Xn, C R21/22-34-43	
		Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1; H312 H302 H314 H317	

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

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

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 3 of 8

Personal precautions

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

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

Exposure limits (EH40)

CAS No.	Chemical name	ml/m ³	mg/m ³	F/ml	Category	Origin
111-40-0	2,2'-Iminodi(ethylamine)	1	4.3		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

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.

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)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 4 of 8

Skin protection

Wear protective clothing. (EN 368/9)

9. Physical and chemical properties

General information

Physical state: liquid
Colour: yellowish brown
Odour: amine-like

Important health, safety and environmental information

	Test method
pH-Value (at 20 °C):	10,5 ISO 8975

Changes in the physical state

Boiling point:	> 200 °C	DIN 53171
Flash point:	> 100 °C	ISO 2719
Vapour pressure: (at 20 °C)	0,03 hPa	
Density (at 20 °C):	1,07 g/cm ³	DIN 53217
Water solubility:	not miscible / slightly soluble	
Viscosity / dynamic: (at 25 °C)	1500-1800 mPa·s	ISO 9371

Other information

Ignition temperature:	> 350 °C	DIN 51794
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10. Stability and reactivity

Conditions to avoid

no decomposition when stored and handled properly

Materials to avoid

strong exothermal reaction with: acid.

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.

Sensitizing effects

Contact may cause skin sensitisation.

Additional information on tests

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

12. Ecological information

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 5 of 8

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)

UN number: 2735

ADR/RID class: 8

Classification code: C7

Warning plate

Hazard-no.: 80

Hazard label: 8



ADR/RID packing group: III

Limited quantity: LQ7

Description of the goods

POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Other applicable information (land transport)

: 274

: 3

: E

Marine transport

UN number: 2735

IMDG code: 8

Marine pollutant: •

Hazard label: 8



IMDG packing group: III

EmS: F-A, S-B

Limited quantity: 5 L

Description of the goods

POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Other applicable information (marine transport)

: 223, 274, 944

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 6 of 8

Air transport

UN/ID number: 2735
ICAO/IATA-DGR: 8
Hazard label: 8



ICAO packing group: III
Limited quantity Passenger: 1 L
IATA-packing instructions - Passenger: 818
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 820
IATA-max. quantity - Cargo: 60 L

Description of the goods

POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Other applicable information (air transport)

: Y818

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 Harmful in contact with skin.
22 Harmful if swallowed.
34 Causes burns.
43 May cause sensitization by skin contact.

S phrases

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36 Wear suitable protective clothing.
37 Wear suitable gloves.
39 Wear eye/face protection.
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.

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

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 7 of 8



Hazard statements

- H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements

- 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.
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.
P321 Specific treatment (see ... on this label).
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
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.
P405 Store locked up.
P501 Dispose of contents/container to ...

EU regulatory information

Additional information

EC-identification.

National regulatory information

Water contaminating class (D): 2 - 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

- 21 Harmful in contact with skin.
21/22 Harmful in contact with skin and if swallowed.
22 Harmful if swallowed.
34 Causes burns.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Hardener EPH 573

Print date: 19.09.2011

Product code: 112119-X

Page 8 of 8

43 May cause sensitization by skin contact.

Full text of H-Statements referred to under sections 2 and 3

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.

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.)