

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 1 of 8

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

#### Identification of the substance or mixture

Hardener EPH 294

#### 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.

Harmful to aquatic organisms.

May cause long-term adverse effects in the aquatic environment.

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

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.

### 3. Composition/information on ingredients

#### Chemical characterization ( Mixture )

epoxy resin hardener

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 2 of 8

### Hazardous components

| EC No.    | CAS No.   | Chemical name   | Quantity |
|-----------|-----------|---|----------|
|           |           | Classification<br>GHS classification  |          |
|           |           | Alkyletheramine   | > 50%    |
|           |           | C R34   |          |
| 220-666-8 | 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine  | 25-50%   |
|           |           | Xn, C R21/22-34-43-52-53  |          |
|           |           | Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3;<br>H312 H302 H314 H317 H412 |          |

Full text of R- and H-phrases: see section 16.

### 4. First aid measures

#### General information

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

#### 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.

#### 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.

### 5. Fire-fighting measures

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>).  
Extinguishing powder.  
Water fog.  
Fight major fires with a water spray jet or alcohol-resistant foam.

#### Extinguishing media which must not be used for safety reasons

High power water jet.

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

In case of fire may form:  
Nitrogen oxides (NO<sub>x</sub>).  
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.

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 3 of 8

### 6. Accidental release measures

#### Personal precautions

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

#### 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

Provide adequate ventilation. 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 adequate ventilation/vapour extraction at the workplace.

##### 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 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)

##### Skin protection

Wear protective clothing. (EN 368/9)

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 4 of 8

### 9. Physical and chemical properties

#### General information

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

#### Important health, safety and environmental information

Test method

##### **Changes in the physical state**

Boiling point: > 240 °C DIN 53171  
Flash point: > 110 °C ISO 2719  
Lower explosion limits:  
Upper explosion limits:  
Density (at 20 °C): 0,933 - 0,935 g/cm<sup>3</sup> DIN 53217  
Water solubility: completely soluble  
Viscosity / dynamic:  
(at 25 °C) 40 - 80 mPa·s ISO 9371

#### Other information

Ignition temperature: > 200 °C DIN 51794

### 10. Stability and reactivity

#### **Conditions to avoid**

no decomposition when stored and handled properly

#### **Materials to avoid**

strong exothermic reaction with: acid.

#### **Hazardous decomposition products**

Gas / vapours, corrosive.  
Ammonia.

### 11. Toxicological information

#### **Specific effects in experiment on an animal**

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

oral: 1.030 mg/kg (rat) LD50

dermal: 1.840 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

#### **Further information**

Do not let the product enter the groundwater, open water, or the sewerage system.

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 5 of 8

### 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  
Tunnel restriction code: E

#### Description of the goods

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Alkyletheramin)

#### Other applicable information (land transport)

Special provisions: 274  
E0  
: 1

#### Marine transport

UN number: 2735  
IMDG code: 8  
Marine pollutant: •  
Hazard label: 8



IMDG packing group: III  
EmS: F-A, S-B  
Limited quantity: None

#### Description of the goods

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Alkyletheramine)

#### Other applicable information (marine transport)

Special provisions: 274  
E0

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 6 of 8

### Air transport

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



ICAO packing group: III  
Limited quantity Passenger: -  
IATA-packing instructions - Passenger: 807  
IATA-max. quantity - Passenger: 0.5 L  
IATA-packing instructions - Cargo: 809  
IATA-max. quantity - Cargo: 2.5 L

### Description of the goods

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Alkyletheramine)

### Other applicable information (air transport)

E0

: -

Special provisions: A3

## 15. Regulatory information

### Labelling

Danger symbols: C - Corrosive



C - Corrosive

### Hazardous components which must be listed on the label

Isophorondiamin  
Alkyletheramin

### R phrases

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

### 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.
- 61 Avoid release to the environment. Refer to special instructions / Safety data sheets.

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 7 of 8

### 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



### Hazard statements

- |      |  |
|------|--|
| H302 | Harmful if swallowed.                              |
| 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.   |
| 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.                       |
| 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): 1 - slightly water contaminating

#### Additional information

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

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Hardener EPH 294

Print date: 16.05.2011

Product code: 103105-2010

Page 8 of 8

### 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.   |
| 43    | May cause sensitization by skin contact.                        |
| 52    | Harmful to aquatic organisms.                                   |
| 53    | May cause long-term adverse effects in the aquatic environment. |

#### 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.               |
| 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.)*