

Safety Data Sheet

according to Regulation (EU) No. 1907/2006

Hardener HT2

Print date: 27.07.2010

Product code: 105110-2010

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

Identification of the substance or preparation

Hardener HT2

Use of the substance/preparation

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, Dangerous for the environment

R-phrases:

Harmful by inhalation.

Harmful in contact with skin.

Harmful if swallowed.

Causes burns.

May cause sensitization by skin contact.

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

3. Composition/information on ingredients

Chemical characterization (Mixture)

epoxy resin hardener

Hazardous components

EC-No.	CAS-No.	Chemical name	Quantity	Classification
202-859-9	100-51-6	benzyl alcohol	25-50%	Xn R20/22
220-666-8	2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	25-50%	Xn, C R21/22-34-43-52-53
246-672-0	25154-52-3	nonylphenol	< 5%	Repr. Cat. 3, Repr. Cat. 3, Xn, C, N R62-63-22-34-50-53

Full text of each relevant R phrase can be found in heading 16.

4. First aid measures

General information

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

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After inhalation

fresh air or oxygen supply Seek medical attention immediately. 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 (CO₂).
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 preparation 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

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.

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. Provide adequate ventilation.

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.

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Storage

Requirements for storage rooms and vessels

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

Further information on storage conditions

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

Storageclass (VCI): 8

8. Exposure controls/personal protection

Exposure limit values

Exposure controls

Protective and hygiene measures

Immediately take off soiled, impregnated clothing. Avoid contact with skin and eyes. Wash hands before breaks and after work. 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 340)

9. Physical and chemical properties

General information

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

Important health, safety and environmental information

	Test method
pH-Value (at 20 °C):	11,8 ISO 8975

Changes in the physical state

Boiling point:	> 200 °C	DIN 53171
Flash point:	> 100 °C	ISO 2719

Explosive properties

Vapours can form potentially explosive mixtures with air.

Lower explosion limits:	1,2 vol. %
Upper explosion limits:	13 vol. %
Vapour pressure: (at 20 °C)	ca. 0,3 hPa
Density (at 20 °C):	ca. 0,98 g/cm ³ DIN 53217
Water solubility:	slightly soluble

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Viscosity / dynamic:
(at 25 °C)

ca. 200 mPa·s ISO 9371

Other information

Ignition temperature:

> 350 °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

100-51-6 benzyl alcohol:

oral: 1.230 - 3.100 mg/kg (rat) LD50

dermal: 2.000 mg/kg (rabbit) LD50

inhalativ: > 4.178 mg/m³ (rat) LC50/4h, 1.000 ppm (The thermal decomposition of the substance can give rise to compounds of unknown formulation.2) LC50/8h

Corrosive and irritant effects

Caustic effect on eyes, skin, and mucous membranes.

Sensitising 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.

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

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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. (Isophorondiamin)

Other applicable information (land transport)

: 274
 : 3
 : E
 E0
 : 1
 E1

Marine transport

UN number: 2735
 IMDG code: 8
 Marine pollutant: no
 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. (Isophorondiamine)

Other applicable information (marine transport)

: 223, 274, 944
 E1

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

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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. (Isophoronediamine)

Other applicable information (air transport)

: Y818
E1
Special provisions: A3

15. Regulatory information

Labelling

Danger symbols: C - Corrosive; N - Dangerous for the environment



C - Corrosive



N - Dangerous for the environment

Hazardous components which must be listed on the label

3-Azapentan-1,5-diamin
3-Aminomethyl-3,5,5-trimethylcyclohexylamin
2,2'-Dimethyl-4,4'-methylenbis
3-aminomethyl-3,5,5-trimethylcyclohexylaminebenzyl alcohol

R phrases

20	Harmful by inhalation.
21	Harmful in contact with skin.
22	Harmful if swallowed.
34	Causes burns.
43	May cause sensitization by skin contact.
51/53	Toxic to aquatic organisms, 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.

Additional advice on labelling

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

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)

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16. Other information

Full text of R-phrases referred to under sections 2 and 3

20	Harmful by inhalation.
20/22	Harmful by inhalation and if swallowed.
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.
50	Very toxic to aquatic organisms.
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
52	Harmful to aquatic organisms.
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.

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.)