

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener EPH 500

Print date: 31.10.2012

Product code: 100147-2012-GHS

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

Identification of the substance or mixture

Hardener EPH 500

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:	poison information centre	

2. Hazards identification

Classification

Indications of danger : Corrosive

R-phrases:

Harmful by inhalation, in contact with skin and 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, formulation based on aliphatic polyamines

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Hazardous components

EC No	CAS No	Chemical name	Quantity
		Classification GHS classification	
202-859-9	100-51-6	benzyl alcohol	25-50%
		Xn - Harmful R20/22	
		Acute Tox. 4, Acute Tox. 4; H332 H302	
220-666-8	2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	25-50%
		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	
	38294-64-3	Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (chloromethyl)oxirane	25-50%
		C - Corrosive, Xn - Harmful, N - Dangerous for the environment R21/22-34-43	
	68512-30-1	Phenyl, methyl styrolisiert	2,5-10%
		Xi - Irritant R38-43-52-53	

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

Further Information

The wording for the listed danger notices can be taken from Section 16.

4. First aid measures

General information

Remove contaminated clothing immediately.

After contact with skin

Immediately with water and soap and rinse thoroughly.

After contact with eyes

If the product comes into contact with the eyes, immediately rinse the open eyes with copious amounts of water for at least ten minutes. Afterwards consult an eye specialist.

After ingestion

Drink plenty of water and fresh air. Call a doctor immediately

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 mixture itself, combustion products, resulting gases

Fire and decomposition may release irritant, caustic, ignitable, unhealthy, toxic gases and vapours.

Special protective equipment for fire-fighters

Wear breathing apparatus with own air supply.

Additional information

Fire residue and contaminated firefighting water must be disposed of in accordance with government regulations.

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6. Accidental release measures

6.2. Environmental precautions

Do not let the product enter the groundwater, open water, or the sewerage system.
Do not allow to enter the soil or subsoil.

Methods for cleaning up/taking up

Dispose of contaminated material as § 13 waste.
Provide adequate ventilation.

7. Handling and storage

Handling

Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation, if necessary). If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn. Product inherent handling risks must be minimised taking the appropriate measures for protection and preventive actions. The working process should be designed to rule out the release of hazardous substances or skin contact as far it is possible by the state of the art. Provide good room ventilation even at ground level (vapours are heavier than air).

Storage

Requirements for storage rooms and vessels

Always keep in containers of same material as the original. Instructions on the label. Protect from heat and direct sunlight.
Provide for retaining containers, eg. floor pan without outflow.

Advice on storage compatibility

Store separately from foodstuffs.

Further information on storage conditions

Keep receptacles tightly sealed.

Storageclass (D): 8A

8. Exposure controls/personal protection

Exposure limit values

Additional advice on limit values

Based on references valid at the time of compilation.

8.2. Exposure controls

Occupational exposure controls

Personal protection equipment

Protective and hygiene measures

Keep away from food, drink and animal feeding stuffs.
Immediately take off soiled, impregnated clothing.
Wash hands before breaks and after work.
Do not come into contact with eyes or skin.

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment. Filter type AX-P2 (organic vapors, particles)

Hand protection

Plastic gloves (EN 374)
Only chemicals - protective gloves with CE-labeling of category 3 use.

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To minimize the wetness in the glove due to perspiration changing of gloves during a shift is required
Before using check leak tightness / impermeability.

Preventive skin protection by use of hand protection products is recommended

Material of Gloves

NBR (Nitrile rubber).

FKM (Fluoroelastomer).

Recommended thickness <0.5 mm

Further information on suitable protective gloves can be found at [www.gisbau.de / service / epoxi / expotab.html](http://www.gisbau.de/service/epoxi/expotab.html)

The glove material has to be impermeable and resistant to the product / the substance / the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and degradation. Material of gloves: The selection of suitable gloves not only the material but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of glove materials can not advance and has therefore to be checked before use. Neoprene gloves. Gloves made of synthetic rubber. The exact Durchbuchzeit is from the protective glove manufacturer to manufacturer.

Not suitable are gloves made of: Strong gloves. Gloves made of leather.

Eye protection

Protective goggles (EN 166)

Skin protection

Protective work clothing (EN 340)

9. Physical and chemical properties

General information

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

Important health, safety and environmental information

Test method

Changes in the physical state

Melting point:	not determined
Boiling point:	>200 °C
Flash point:	> 100 °C

Explosive properties

not Explosive.

Lower explosion limits:	1,2 vol. %
Upper explosion limits:	13,0 vol. %
Vapour pressure: (at 20 °C)	0,1 hPa
Density (at 23 °C):	1.02 g/cm ³
Water solubility:	immiscible with water
Viscosity / dynamic: (at 23 °C)	550 mPa·s ISO 2811, part 2

9.2. Other information

Auto-ignition temperature	Not self-igniting
Solid:	
Gas:	

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Ignition temperature:

380 °C

10. Stability and reactivity

11. Toxicological information

12. Ecological information

13. Disposal considerations

Waste disposal number of waste from residues/unused products

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

14. Transport information

Land transport (ADR/RID)

14.1. UN number: UN2735

ADR/RID class: 8

Classification code: C7

Warning plate

Hazard No: 80

Hazard label: 8



ADR/RID packing group: II

Limited quantity: 1 L

Tunnel restriction code: E

Description of the goods

AMINES, LIQUID, CORROSIVE, N.O.S. (isophoronediamine)

Other applicable information (land transport)

E2

Marine transport

14.1. UN number: UN2735

IMDG code: 8

Hazard label: 8



IMDG packing group: II

EmS: F-A, S-B

Limited quantity: 1 L

Description of the goods

AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE)

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Other applicable information (marine transport)

E2

Air transport

UN/ID number: UN2735

ICAO/IATA-DGR: 8

Hazard label: 8



ICAO packing group: II

Limited quantity Passenger: 0.5 L

IATA-packing instructions - Passenger: 851

IATA-max. quantity - Passenger: 1 L

IATA-packing instructions - Cargo: 855

IATA-max. quantity - Cargo: 30 L

Description of the goods

AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORNDIAMINE)

Other applicable information (air transport)

E2

: Y840

15. Regulatory information

Labelling

Danger symbols: C - Corrosive



C - Corrosive

Hazardous components which must be listed on the label

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Reaction product of isophorone diamine and bisphenol A-epichlorohydrin resin MW <700

methylstyrolisiert phenol,

benzyl alcohol

R phrases

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

34 Causes burns.

43 May cause sensitization by skin contact.

52/53 Harmful 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.

28 After contact with skin, wash immediately with plenty of water and soap. .

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

GHS labelling

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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

National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

16. Other information

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

20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
20/22	Harmful by inhalation and if swallowed.
21/22	Harmful in contact with skin and if swallowed.
34	Causes burns.
38	Irritating to skin.
43	May cause sensitization by skin contact.
52	Harmful to aquatic organisms.
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.

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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.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

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