

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

Page 1 of 8

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

Identification of the substance or mixture

Hardener TG

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: C - Corrosive

R phrases:

Harmful in contact with skin.

Causes severe 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

Skin corrosion/irritation: Skin Corr. 1A

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)

Mixture of the following substances with harmless additives

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

Page 2 of 8

Hazardous components

EC No	CAS No	Chemical name	Quantity
		Classification	
		GHS classification	
203-950-6	112-24-3	3,6-diazaoctanethylenediamin, triethylenetetramine	50 - 55 %
		C - Corrosive, Xn - Harmful R21-34-43-52-53	
		Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H314 H317 H412	
	1477-55-0	m-Xylilendiamin	10 - 15 %
		C - Corrosive, Xn - Harmful R20/22-34-43-52-53	
210-484-7	616-47-7	1-methylimidazole	5 - 10 %
		C - Corrosive, Xn - Harmful R21/22-34	
		Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B; H312 H302 H314	
247-134-8	25620-58-0	Trimethylhexamethylen Diamine	1 - 5 %
		C - Corrosive, Xn - Harmful R22-34-52-53	

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

4. First aid measures

General information

Immediately take off soiled, impregnated clothing.

After inhalation

consult a doctor.

After contact with skin

Washing places concerned with a lot of water and soap. If the symptom doesn't stop, consult doctor.

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

Rinse mouth immediately and drink large quantities of water. Call a doctor, giving the substance's exact name.

Advice to doctor

Provide symptomatic treatment.

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

When heating up or in the fire case formation of poisonous gasses possible.

Additional information

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 TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

Page 3 of 8

6. Accidental release measures

Personal precautions

Wearing a personal protective clothing.

6.2. 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.

Additional information

Carefully cleaning scene of an accident.

7. Handling and storage

Handling

Advice on safe handling

Provide adequate room ventilation, if necessary with vapour extraction at the workplace.

Storage

Requirements for storage rooms and vessels

Keep only in the original container. Provide for retaining containers, eg. floor pan without outflow.

Advice on storage compatibility

Store separately from foodstuffs.

Further information on storage conditions

Provide for retaining containers, eg. floor pan without outflow.

8. Exposure controls/personal protection

Exposure limit values

8.2. Exposure controls

Protective and hygiene measures

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.
Beschmutzte, getränkte Kleidung sofort ausziehen.
Vor den Pausen und bei Arbeitsende Hände waschen.
Berührung mit den Augen und der Haut vermeiden.

Respiratory protection

Bei unzureichender Belüftung Atemschutz. Empfohlenes Filtergerät für kurzzeitigen Einsatz:
Kombinationsfilter A-P2

Hand protection

Nur Chemikalien-Schutzhandschuhe mit einer CE-Kennzeichnung der Kategorie III verwenden. Zur Minimierung der Nässe im Handschuh durch Schweißbildung ist ein Wechseln der Handschuhe während einer Schicht erforderlich. Vor jeder erneuten Verwendung des Handschuhs ist die Dichtheit zu prüfen. Vorbeugender Hautschutz durch Verwendung von Hautschutzmitteln wird empfohlen.
Handschuhmaterial: Nitrilkautschuk, Fluorkautschuk (Viton)
Empfohlene Materialstärke: $\geq 0,5\text{mm}$

Eye protection

Dichtschliessende Schutzbrille

Skin protection

Arbeitsschutzkleidung

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

Page 4 of 8

9. Physical and chemical properties

General information

Physical state: liquid
Colour: yellowish
Odour: characteristic

Important health, safety and environmental information

	Test method
pH-Value:	12
Changes in the physical state	
Boiling point:	> 200 °C
Flash point:	> 100 °C
Lower explosion limits:	
Upper explosion limits:	
Density (at 23 °C):	1,01 g/cm ³
Water solubility:	slightly soluble
Viscosity / dynamic: (at 20 °C)	170 mPa·s

10. Stability and reactivity

10.6. Hazardous decomposition products

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

11. Toxicological information

Irritation and corrosivity

Strong caustic effects on eyes, skin, and mucous membranes.

Sensitising effects

May cause sensitization by skin contact.

Additional information on tests

111-40-0 3-Azapentan-1,5-diamin
no effect level 30 mg/kg/d (-)
Reproduktionstoxizitäts-Screeningtest (OECD 421) Ratte
(90d) 70-80 mg/kg/d (rat)
subchronische orale Toxizität

12. Ecological information

Ecotoxicity

not determined

Further information

Undiluted or nonneutralised product may not enter waste water channel or main outfall.

13. Disposal considerations

Waste disposal number of waste from residues/unused products

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

Page 5 of 8

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

Waste disposal number of used product

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

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
Classification code: C7
Warning plate
Hazard No: 80
Hazard label: 8



ADR/RID packing group: II
Limited quantity: LQ22
Tunnel restriction code: E

Description of the goods

AMINES, LIQUID, CORROSIVE, N.O.S. (3,6-Diazaoctan-1,8-diamin (vgl. Triethylentetramin); 1,3-Benzoldimenthanamin)

Other applicable information (land transport)

Special provisions: 274
E2
: 2

Marine transport (IMDG)

14.1. UN number: 2735
IMDG code: 8
Marine pollutant: •
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. (3,6-diazaoctanethylenediamin; m-phenylenbis (methylamine))

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

Page 6 of 8

Other applicable information (marine transport)

Special provisions: 274, 944
E2

Air transport (ICAO)

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



ICAO packing group: II
Limited quantity Passenger: 0.5 L
IATA-packing instructions - Passenger: 808
IATA-max. quantity - Passenger: 1 L
IATA-packing instructions - Cargo: 812
IATA-max. quantity - Cargo: 30 L

Description of the goods

AMINES, LIQUID, CORROSIVE, N.O.S (3,6-diazaoctanethylenediamin; m-phenylenbis (methylamine))

Other applicable information (air transport)

E2
: Y808
Special provisions: A3

15. Regulatory information

Labelling

Danger symbols: C - Corrosive



C - Corrosive

R phrases

21 Harmful in contact with skin.
35 Causes severe 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 Do not breath vapour. .
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).
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

Signal word: Danger
Pictograms: corrosion; exclamation mark

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

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. |
| 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. |
| 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): 2 - water contaminating

Additional information

BG Merkblatt:
Praxisleitfaden für den Umgang mit Epoxidharzen
(herausgegeben von der Berufsgenossenschaft der Bauwirtschaft)
www.bgbau.de oder www.gisbau.de

Epoxidharz-Systeme sicher handhaben
(herausgegeben von PlasticsEurope)
www.plasticseurope.org

BGR 227 "Tätigkeiten mit Epoxidharzen"
(herausgegeben vom Hauptverband der gewerblichen Berufsgenossenschaften)
www.dguv.de
BGR 190 - Regel für den Einsatz von Atemschutzgeräten
BGR 192 - Regeln für den Einsatz von Augen- und Gesichtsschutz

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hardener TG

Print date: 09.04.2013

Product code: 115146-2012-GHS

Page 8 of 8

16. Other information

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

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.
35	Causes severe burns.
43	May cause sensitisation 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.

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.

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