

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**1 Min.-Epoxy (hardener)**

Print date: 15.01.2014

Product code: 154110-GHS-2013

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

1 Min.-Epoxy (hardener)

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Hardener (Crosslinker )

**1.3. Details of the supplier of the safety data sheet**

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:** Vergiftungs-Informations-Zentrale Freiburg  
Tel: +49 (0)761 19240

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

Indications of danger: C - Corrosive, Xn - Harmful, Xi - Irritant

R phrases:

Harmful in contact with skin.

Causes severe burns.

**GHS classification**

Hazard categories:

Skin corrosion/irritation: Skin Corr. 1B

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

Causes severe skin burns and eye damage.

**2.2. Label elements**

Signal word: Danger

Pictograms: GHS05

**Hazard statements**

H314 Causes severe skin burns and eye damage.

**Precautionary statements**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see Hazard statements 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/doctor.
P405	Store locked up.
P501	Dispose of waste according to applicable legislation.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Hazardous components**

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
221-220-5	N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine)	2 - 6%
3033-62-3	T - Toxic, C - Corrosive, Xn - Harmful R20/22-24-34	
	Acute Tox. 3, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B; H311 H302 H332 H314	

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

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

**After inhalation**

Provide fresh air. Medical treatment necessary.

**After contact with skin**

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

**After ingestion**

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Potential hazards: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

**4.2. Most important symptoms and effects, both acute and delayed**

No information available.

**4.3. Indication of any immediate medical attention and special treatment needed**

No information available.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

#### 5.2. Special hazards arising from the substance or mixture

Vapours can form explosive mixtures with air. In case of fire may be liberated: Gases/vapours, toxic  
Gases/vapours, corrosive

#### 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

#### **Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

#### 6.3. Methods and material for containment and cleaning up

Before discharge into sewage plants the product normally needs to be neutralised. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### **Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

##### **Advice on protection against fire and explosion**

No special fire protection measures are necessary.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### **Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

##### **Advice on storage compatibility**

Do not store together with: Epoxy resin products, containing solvents

#### 7.3. Specific end use(s)

Hardener (Crosslinker )

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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**8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Protective and hygiene measures**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state: liquid  
 Colour: yellow-amber  
 Odour: like: Mercaptan

pH-Value: not determined

**Changes in the physical state**

Melting point: not determined  
 Initial boiling point and boiling range: not determined  
 Flash point: > 93 °C

**Flammability**

Solid: not applicable  
 Gas: not applicable

Lower explosion limits: not determined

Upper explosion limits: not determined

**Auto-ignition temperature**

Solid: not applicable  
 Gas: not applicable

Decomposition temperature: not determined

**Test method**

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**Oxidizing properties**

Not oxidizing.

Vapour pressure: not determined

Density: 1,12 g/cm<sup>3</sup>

Water solubility: completely miscible

**Solubility in other solvents**

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

**9.2. Other information**

Solid content: not determined

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Possibility of hazardous reactions.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Exothermic reaction with: Acid, Peroxide, Oxidising agent.

**10.4. Conditions to avoid**

none

**10.5. Incompatible materials**

Keep away from: Acid, Oxidising agent, Peroxide.

**10.6. Hazardous decomposition products**Contains: Mercaptan. Formation of: Hydrogen sulphide (H<sub>2</sub>S).**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity**

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
3033-62-3	N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine)				
	oral	LD50	1070 mg/kg	Rat	
	dermal	ATE	300 mg/kg		
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1,5 mg/l		

**Additional information on tests**

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

**SECTION 12: Ecological information****12.1. Toxicity**

According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment".

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**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

The product has not been tested.

**12.6. Other adverse effects**

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Advice on disposal**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number:**

UN 3267

**14.2. UN proper shipping name:**CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  
(N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine))**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

Hazard label:

8



Classification code:

C7

Special Provisions:

274

Limited quantity:

5 L

Transport category:

3

Hazard No:

80

Tunnel restriction code:

E

**Other applicable information (land transport)**

no potential risks E1

**Inland waterways transport (ADN)****14.1. UN number:**

UN 3267

**14.2. UN proper shipping name:**CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  
(N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine))**14.3. Transport hazard class(es):**

8

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**14.4. Packing group:**

III

Hazard label:

8



Classification code:

C7

Special Provisions:

274

Limited quantity:

5 L

**Other applicable information (inland waterways transport)**

no potential risks E1

**Marine transport (IMDG)****14.1. UN number:**

UN 3267

**14.2. UN proper shipping name:**CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  
(N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine))**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

Hazard label:

8



Special Provisions:

223, 274

Limited quantity:

5 L

EmS:

F-A, S-B

**Other applicable information (marine transport)**

no potential risks E1

**Air transport (ICAO)****14.1. UN number:**

UN 3267

**14.2. UN proper shipping name:**CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  
(N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine))**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

III

Hazard label:

8



Special Provisions:

A3 A803

Limited quantity Passenger:

1 L

IATA-packing instructions - Passenger:

852

IATA-max. quantity - Passenger:

5 L

IATA-packing instructions - Cargo:

856

IATA-max. quantity - Cargo:

60 L

**Other applicable information (air transport)**

no potential risks E1

The thermal decomposition of the substance can give rise to compounds of unknown formulation.:

Y841

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

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**14.6. Special precautions for user**

Warning: strongly corrosive.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

1999/13/EC (VOC): 6 % (67,2 g/l)

**National regulatory information**Employment restrictions: Observe employment restrictions for young people.  
Water contaminating class (D): 2 - water contaminating**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%

**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.
24	Toxic in contact with skin.
34	Causes burns.
35	Causes severe burns.

**Full text of H statements referred to under Sections 2 and 3**

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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