

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## MEKP hardener

Print date: 31.10.2012

Product code: 145130-GHS-2012

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

#### Identification of the substance or mixture

MEKP 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 : Oxidizing, Corrosive

R-phrases:

May cause fire.

Harmful if swallowed.

Causes burns.

GHS:

Hazard categories:

Flammable liquid: Flam. Liq. 3

Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Flammable liquid and vapour.

Causes serious eye irritation.

### 3. Composition/information on ingredients

#### Chemical characterization ( Mixture )

Mixture of substances listed below with harmless additions.

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### Hazardous components

EC No	CAS No	Chemical name	Quantity
		Classification GHS classification	
215-661-2	1338-23-4	methylethylketoneperoxide	25 - 45 %
		O - Oxidizing, C - Corrosive, Xn - Harmful R07-22-34	
204-626-7	123-42-2	4-hydroxy-4-methylpentan-2-one, diacetone alcohol	5 - 10 %
		Xi - Irritant R36 Eye Irrit. 2; H319	
231-765-0	7722-84-1	hydrogen peroxide solution ... %	1 - 2 %
		O - Oxidizing, C - Corrosive, Xn - Harmful R5-8-35-20/22 Ox. Liq. 1, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1A; H271 H332 H302 H314	
201-159-0	78-93-3	butanone; ethyl methyl ketone	1 %
		F - Highly flammable, Xi - Irritant R11-36-66-67 Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336	

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

#### Further Information

The wording of the listed risk phrases refer to section 16

### 4. First aid measures

#### General information

Symptoms of poisoning can occur after several hours, therefore medical observation for at least 48 hours after the accident. Self-protection of the first aider. Remove from exposure, lie down. Irregular Atmund or artificial respiration. Remove contaminated clothing immediately.

#### After inhalation

Bring the patient out into the fresh air. Call a doctor, giving the substance's exact name. If unconscious, storage and transport in stable lateral position

#### After contact with skin

After contact with skin, wash immediately with soap and plenty of water. Immediately consult a doctor, presenting the packaging or label.

#### 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 with water. Rinse mouth immediately and drink large quantities of water. Move a vomiting patient lying on his back into a stable position on his side. Do not induce vomiting. Call a doctor, giving the substance's exact name.

### 5. Fire-fighting measures

#### Suitable extinguishing media

alcohol resistant foam. Dry extinguishing powder. Carbon dioxide (CO<sub>2</sub>).

#### 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

Use a water spray jet to cool closed receptacles near the source of the fire. Do not let firefighting water enter the sewerage system or water courses.

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### Special protective equipment for fire-fighters

Wear a protective full body suit.

### Additional information

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

## 6. Accidental release measures

### Personal precautions

Use appropriate respiratory protection.

### 6.2. Environmental precautions

Do not empty into drains or the aquatic environment.

### Methods for cleaning up/taking up

Remove carefully with a mechanical means (e.g. with a clean PE shovel). Contain escaping material with a nonflammable, absorbent substance (e.g. sand, soil, kieselguhr, vermiculite).

### Additional information

Never transfer other substances or waste to receptacles containing product residue. Dispose of contaminated material as § 13 waste.

## 7. Handling and storage

### Handling

### Storage

#### Requirements for storage rooms and vessels

Electrical equipment and operating resources must comply with the state of the art. Keep opened receptacles upright to prevent leakage.

#### Advice on storage compatibility

Keep separate from other hazardous and incompatible substances.

#### Further information on storage conditions

Prevent contamination by e.g. rust, dust, or ashes - risk of decomposition!

## 8. Exposure controls/personal protection

### Exposure limit values

#### Exposure limits (EH40)

CAS No	Chemical name	ml/m <sup>3</sup>	mg/m <sup>3</sup>	F/ml	Category	Origin
123-42-2	4-Hydroxy-4-methyl-pentan-2-one	50	241		TWA (8 h)	WEL
		75	362		STEL (15 min)	WEL
78-93-3	Butan-2-one (methyl ethyl ketone)	200	600		TWA (8 h)	WEL
		300	899		STEL (15 min)	WEL
7722-84-1	Hydrogen peroxide	1	1.4		TWA (8 h)	WEL
		2	2.8		STEL (15 min)	WEL
1338-23-4	Methyl ethyl ketone peroxides (MEKP)	-	-		TWA (8 h)	WEL
		0.2	1.5		STEL (15 min)	WEL

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### Biological Monitoring Guidance Values (EH40)

CAS No	Chemical name	Parameter	Value	Test material	Sampling time
78-93-3	Butan-2-one	butan-2-one	70 µmol/L	urine	Post shift

### 8.2. Exposure controls

#### Protective and hygiene measures

The usual precautionary measures for handling chemicals should be followed. Keep away from food, beverages and feed. Remove contaminated clothing immediately. Wash hands before breaks and after work. Store protective clothing. Avoid contact with eyes and skin. When using do not eat, drink, smoke or take drugs. Use barrier skin cream.

#### Respiratory protection

In case of insufficient ventilation. In case of brief exposure or low pollution use respiratory filter device during intensive or longer exposure use self-contained breathing apparatus. Filter A / P 2

#### Hand protection

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.

#### Eye protection

Tightly fitting safety goggles. Shield

#### Skin protection

Wear protective clothing.

## 9. Physical and chemical properties

### General information

Physical state:	liquid
Colour:	colourless
Odour:	penetrative

### Important health, safety and environmental information

#### Changes in the physical state

	Test method
Boiling point:	> 100 °C
Sublimation point:	57 °C
Flash point:	70 °C
Density (at 20 °C):	1,02 g/cm <sup>3</sup>
Solubility in other solvents:	Medium: Phthalate mischbar
Viscosity / dynamic: (at 20 °C)	16 mPa·s

### 9.2. Other information

Brechungsindex: 1,458 bei 20 °C

## 10. Stability and reactivity

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### 10.4. Conditions to avoid

Keep away from heat and ignition sources.

### Materials to avoid

accelerator strong acid and alkalis heavy metals. Reducing agents.

### 10.6. Hazardous decomposition products

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

### Further information

Thermische Zersetzung: ca. 60 °C

Methode: SADT (UN-Test H.4)

Selbstbeschleunigende Zersetzung möglich bei Temperaturen ab ca. 60 °C

## 11. Toxicological information

### Acute toxicity

oral LD50: rat Dosis: 1,017 mg/kg Testsubstanz: Methylethylketonperoxid (40% in Dimethylphthalat)

LC50: rat Expositionszeit: 4h Testsubstanz: Methylethylketonperoxid (40% in Dimethylphthalat)

Aerosol Nominalkonzentration

LD50: rat Dosis: 1,8 - 3,6 mg/kg Testsubstanz: Methylethylketonperoxid (60% in Dimethylphthalat)

## 12. Ecological information

### Ecotoxicity

Toxizität gegenüber Fischen: LC50 Dosis 44,2 mg/l Expositionszeit 96h Testsubstanz:

Methylethylketonperoxid (33% in Dimethylphthalat)

Toxizität gegenüber Bakterien: EC50 Dosis 48 mg/l Testsubstanz: Methylethylketonperoxid (33% in Dimethylphthalat)

### 12.2. Persistence and degradability

readily biodegradable

## 13. Disposal considerations

### Advice on disposal

Hand over to officially registered waste disposal company.

### Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals  
Classified as hazardous waste.

### Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals  
Classified as hazardous waste.

## 14. Transport information

### Land transport (ADR/RID)

14.1. UN number: 3105

ADR/RID class: 5.2

Classification code: P1

Warning plate

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Hazard No: 539  
ADR/RID packing group: II

### Description of the goods

ORGANISCHES PEROXID TYP D, FLÜSSIG (Methylethylketonperoxid)

### Marine transport

14.1. UN number: 3105  
IMDG code: 5.2  
Marine pollutant: nein  
EmS: F-J, S-R

### Description of the goods

ORGANIC PEROXIDE TYPE D. LIQUID (methylethylketoneperoxide)

### Air transport

UN/ID number: 3105  
ICAO/IATA-DGR: 5.2

### Description of the goods

ORGANIC PEROXIDE TYPE D. LIQUID (methylethylketoneperoxide)

## 15. Regulatory information

### Labelling

Danger symbols: O - Oxidizing; C - Corrosive



O - Oxidizing



C - Corrosive

### R phrases

07 May cause fire.  
22 Harmful if swallowed.  
34 Causes burns.

### S phrases

14 Keep away from strong acids, leachates, heavy metal salts and reducing materials. .  
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).  
50 Do not mix with .  
56 Dispose of this material and its container at hazardous or special waste collection point.  
01/02 Keep locked up and out of the reach of children.  
03/07 Keep container tightly closed in a cool place.  
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

### GHS labelling

Signal word: Warning  
Pictograms: flame; exclamation mark

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### Hazard statements

- H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.

### Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P264 Wash ... thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P370+P378 In case of fire: Use ... for extinction.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container to ....

### National regulatory information

- Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.  
Water contaminating class (D): 2 - water contaminating

### Additional information

- BGV B4 organische Peroxide  
BG-Merkblatt M001 beachten  
Produkt unterliegt nicht dem Sprengstoffgesetz (SprengG)  
Störfallverordnung Anhang I  
Gefahrengruppe nach § 3 BGV B4: 1b

## 16. Other information

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

- 05 Heating may cause an explosion.  
07 May cause fire.  
08 Contact with combustible material may cause fire.  
11 Highly flammable.  
20/22 Harmful by inhalation and if swallowed.  
22 Harmful if swallowed.  
34 Causes burns.  
35 Causes severe burns.  
36 Irritating to eyes.  
66 Repeated exposure may cause skin dryness or cracking.  
67 Vapours may cause drowsiness and dizziness.

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### Full text of H-Statements referred to under sections 2 and 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H271	May cause fire or explosion; strong oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.

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