

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Best MK1312

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#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Best MK1312

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

###### Use of the substance/mixture

Adhesives, sealants

###### Uses advised against

none/none

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

Company name:	Best Klebstoffe GmbH & Co. KG	
Street:	Gewerbestraße 10-14	
Place:	D-86981 Kinsau	
Telephone:	+49 (0)8869-91384-0	Telefax: +49 (0)8869-91384-15
e-mail:	info@bestklebstoffe.de	
Internet:	www.bestklebstoffe.de	
Responsible Department:	Dr. Timo Gans-Eichler Chemieberatung Raesfeldstr. 22 48149 Münster	e-mail: tge-consult@t-online.de Tel.: +49 (0)251/924520-60 www.tge-consult.de

1.4. Emergency telephone number: +49 (0)8869-91384-0 (08:00 - 17:00)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

Indications of danger: Xi - Irritant  
R phrases:  
Irritating to eyes, respiratory system and skin.  
May cause sensitisation by skin contact.

###### GHS classification

Hazard categories:  
Skin corrosion/irritation: Skin Irrit. 2  
Serious eye damage/eye irritation: Eye Dam. 1  
Respiratory/skin sensitization: Skin Sens. 1  
Specific target organ toxicity - single exposure: STOT SE 3  
Hazard Statements:  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May cause respiratory irritation.

##### 2.2. Label elements

###### Hazardous components which must be listed on the label

2-hydroxyethyl methacrylate  
2-methylpropenoic acid, methacrylic acid  
cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide

Signal word: Danger

Pictograms: GHS05-GHS07

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#### Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

#### Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
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.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P501	Dispose of contents/container to disposal according to official regulations .

### 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		
212-782-2	2-hydroxyethyl methacrylate	20 - 25 %
868-77-9	Xi - Irritant R36/38-43	
607-124-00-X	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1; H319 H315 H317	
201-204-4	2-methylpropenoic acid, methacrylic acid	1 - 5 %
79-41-4	C - Corrosive, Xn - Harmful R21/22-35	
607-088-00-5	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1A; H312 H302 H314	
	Ethylphenyl(2,4,6-trimethylbenzoyl)phosphinate	1 - 5 %
84434-11-7	R52-53	
	Aquatic Chronic 3; H412	
201-254-7	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide	1 - 5 %
80-15-9	O - Oxidizing, T - Toxic, C - Corrosive, Xn - Harmful, N - Dangerous for the environment R7-23-21/22-48/20/22-34-51-53	
617-002-00-8	Org. Perox. E, Acute Tox. 3, Acute Tox. 4, Acute Tox. 4, STOT RE 2, Skin Corr. 1B, Aquatic Chronic 2; H242 H331 H312 H302 H373 ** H314 H411	
202-704-5	cumene	< 1 %
98-82-8	Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R10-65-37-51-53	
601-024-00-X	Flam. Liq. 3, Asp. Tox. 1, STOT SE 3, Aquatic Chronic 2; H226 H304 H335 H411	
210-199-8	N,N-dimethyl-m-toluidine	< 1 %
609-72-3	T - Toxic R23/24/25-33-52-53	
612-056-00-9	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT RE 2, Aquatic Chronic 3; H331 H311 H301 H373 ** H412	

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

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#### Further Information

Product does not contain listed SVHC substances.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).

##### After inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Consult physician immediately.

##### After contact with skin

After contact with skin, wash immediately with: Water and soap. In case of skin irritation, seek medical treatment.

##### After contact with eyes

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

##### After ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Let water be swallowed in little sips (dilution effect). In all cases of doubt, or when symptoms persist, seek medical advice.

#### 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.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Foam. Carbon dioxide. Extinguishing powder. Water spray.

##### Extinguishing media which must not be used for safety reasons

High power water jet.

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

Can be released in case of fire: Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Phosphorus oxides.

#### 5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Wear a self-contained breathing apparatus and chemical resistant suit.

#### Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Extinguishing materials should be selected according to the surrounding area. Use water spray/stream to protect personnel and to cool endangered containers.

### SECTION 6: Accidental release measures

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

See protective measures under point 7 and 8.

Provide adequate ventilation.

Wear respiratory protection when in the presence of vapour, dust, and aerosols.

#### 6.2. Environmental precautions

Do not empty into drains or the aquatic environment.

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

Collect mechanically.  
 Treat the assimilated material according to the section on waste disposal.  
 Clear contaminated area thoroughly. Clean contaminated objects and areas thoroughly observing environmental regulations.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Wear suitable protective clothing. ( Refer to chapter 8. )  
 Wear respiratory protection when in the presence of vapour, dust, and aerosols.

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

Usual measures for fire prevention.

##### Further information on handling

Avoid contact with skin, eye and clothing.

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

##### Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep container dry.  
 Do not store at temperatures over: 30°C  
 Keep/Store only in original container.

##### Advice on storage compatibility

Do not store together with: Oxidizing solids. Oxidizing liquids. Explosives. Food and fodder.

##### Further information on storage conditions

Protect against: Light. UV-radiation/sunlight. heat. cooling moisture.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
98-82-8	Cumene	25	125		TWA (8 h)	WEL
		50	250		STEL (15 min)	WEL
79-41-4	Methacrylic acid	20	72		TWA (8 h)	WEL
		40	143		STEL (15 min)	WEL

#### 8.2. Exposure controls



##### Occupational exposure controls

In case of open handling, use devices with built-in suction where possible. If suction of the immediate vicinity is impossible or insufficient, adequate airing of the working place must be ensured.

##### Protective and hygiene measures

Always close containers tightly after the removal of product. Do not eat, drink, smoke or sneeze at the workplace. Wash hands before breaks and at the end of work. Wash contaminated clothing prior to re-use. Used working clothes should not be used outside the work area. Street clothing should be stored separately from work clothing.

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#### Respiratory protection

Respiratory protection required in case of:  
exceeding critical value  
Generation/formation of aerosols  
Generation/formation of mist  
Suitable respiratory protective equipment:  
Combination filter device (DIN EN 141).. Type : A / P2-3

#### Hand protection

Pull-over gloves of rubber. DIN EN 374  
Suitable material:  
Butyl rubber. (0,5 mm) (> 120 min.)  
Before using check leak tightness / impermeability. In case of reutilization, clean gloves before taking off and store in well-aired place.  
Protect skin by using skin protective cream.

#### Eye protection

Suitable eye protection: Tightly sealed safety glasses. DIN EN 166

#### Skin protection

Protective clothing.

#### Environmental exposure controls

Do not empty into drains or the aquatic environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	viscous
Colour:	green
Odour:	characteristic

pH-Value:	n/a
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#### Changes in the physical state

	Test method
Melting point:	not determined
Boiling point:	not determined
Flash point:	not determined
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined
Vapour pressure: (at 20 °C)	not determined
Density:	not determined
Water solubility:	practically insoluble
Viscosity / dynamic: (at 20 °C)	15 mPa·s

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Hazardous polymerization: Protect from direct sunlight. Can polymerise exothermically if heated, exposed to air, sunlight or by addition of free radical initiators.

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#### 10.2. Chemical stability

Stable under normal storage and handling conditions.

#### 10.3. Possibility of hazardous reactions

No information available.

#### 10.4. Conditions to avoid

Protect against: Light. UV-radiation/sunlight. heat. cooling. moisture.

#### 10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Alkalis (alkalis). Amines.

#### 10.6. Hazardous decomposition products

 Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Phosphorus oxides.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Toxicokinetics, metabolism and distribution

No information available.

##### Acute toxicity

CAS No	Chemical name		Exposure routes	Method	Dose	Species	Source
868-77-9	2-hydroxyethyl methacrylate		oral	LD50	5050 mg/kg	Rat.	
79-41-4	2-methylpropenoic acid, methacrylic acid		oral	LD50	1320-2260 mg/kg	Rat.	
			dermal	ATE	1100 mg/kg		
80-15-9	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide		oral	LD50	382 mg/kg	Rat.	IUCLID
			dermal	LD50	500 mg/kg	Rat.	RTECS
			inhalative (4 h) vapour	LC50	(200) mg/l	Mouse.	IUCLID
			inhalative (0 h) aerosol	ATE	0,5 mg/l		
98-82-8	cumene		oral	LD50	1400 mg/kg	Rat.	
			dermal	LD50	12300 mg/kg	Rabbit	IUCLID
			inhalative (4 h) vapour	LC50	39 mg/l	Rat	RTECS
609-72-3	N,N-dimethyl-m-toluidine		oral	ATE	100 mg/kg		
			dermal	ATE	300 mg/kg		
			inhalative vapour	ATE	3 mg/l		
			inhalative aerosol	ATE	0,5 mg/l		

##### Specific effects in experiment on an animal

No information available.

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#### Irritation and corrosivity

Irritant effect on the eye: corrosive.

Irritant effect on the skin: corrosive.

#### Sensitising effects

Sensitizing

People who suffer from skins problems, asthma, allergies, chronic or recurring respiratory illnesses must not be deployed in processes, which use this substance.

#### Severe effects after repeated or prolonged exposure

2-hydroxyethyl methacrylate:

Subchronic oral toxicity: NOAEL = 30 mg/Kg (90d, Rat.)

cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide:

 Subchronic inhalative toxicity (90d) Rat. NOAEC = 31 mg/m<sup>3</sup>

cumene:

Subchronic inhalative toxicity (90d) Rat. NOAEC = 125 ppm

2-hydroxyethyl methacrylate:

Subchronic oral toxicity: NOAEL = 30 mg/Kg (90d, Rat.)

#### Carcinogenic/mutagenic/toxic effects for reproduction

cumene:

No experimental indications of mutagenicity in-vitro exist.

cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide:

There is Evidence for: In-vitro mutagenicity

2-hydroxyethyl methacrylate:

No experimental indications of mutagenicity in-vitro exist.

2-methylpropenoic acid, methacrylic acid:

No experimental indications of mutagenicity in-vitro exist.

## SECTION 12: Ecological information

### 12.1. Toxicity

CAS No	Chemical name	Method	Dose	h	Species	Source
868-77-9	2-hydroxyethyl methacrylate					
	Acute fish toxicity	LC50	227 mg/l	96	Pimephales promelas	
79-41-4	2-methylpropenoic acid, methacrylic acid					
	Acute fish toxicity	LC50	85 mg/l	96	Oncorhynchus mykiss	
	Acute crustacea toxicity	EC50	>130 mg/l	48	Daphnia magna	
84434-11-7	Ethylphenyl(2,4,6-trimethylbenzoyl)phosphinate					
	Acute crustacea toxicity	EC50	10-100 mg/l	48	Daphnia magna	
80-15-9	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide					
	Acute fish toxicity	LC50	3,9 mg/l	96	rainbow trout	
	Acute crustacea toxicity	EC50	18,84 mg/l	48	Daphnia magna	
98-82-8	cumene					
	Acute fish toxicity	LC50	4,8 mg/l	96	Oncorhynchus mykiss	
	Acute algae toxicity	ErC50	1,88-2,15 mg/l	72	Desmodesmus subspicatus	

### 12.2. Persistence and degradability

Ethylphenyl(2,4,6-trimethylbenzoyl)phosphinate:

BOD in % of ThOD &lt; 10% (OECD 301F / ISO 9408 / EEC 92/69 annex V, C.4-D)

Not easily bio-degradable (according to OECD-criteria).

2-hydroxyethyl methacrylate:



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Easily biodegradable (concerning to the criteria of the OECD)  
OECD 301C / ISO 9408 / EEC 92/69 annex V, C.4-F (14d) > 92%  
2-methylpropenoic acid, methacrylic acid:  
Easily biodegradable (concerning to the criteria of the OECD)  
OECD 301D / EEC 92/69 annex V, C.4-E (28d) = 86%  
cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide:  
OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C (28 d) = 3%  
Not easily bio-degradable (according to OECD-criteria).  
cumene:  
Easily biodegradable (concerning to the criteria of the OECD): 70% (20d)

**12.3. Bioaccumulative potential**

No information available.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
868-77-9	2-hydroxyethyl methacrylate	0,47
79-41-4	2-methylpropenoic acid, methacrylic acid	0,93
80-15-9	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide	2,16
98-82-8	cumene	3,55

**12.4. Mobility in soil**

No information available.

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

No information available.

**Further information**

No information available.

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

Consult the local waste disposal expert about waste disposal.

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

080409 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 adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other dangerous substances  
Classified as hazardous waste.

**Waste disposal number of used product**

080409 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 adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other dangerous substances  
Classified as hazardous waste.

**Waste disposal number of contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances  
Classified as hazardous waste.

**Contaminated packaging**

Cleaned containers may be recycled.



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### SECTION 14: Transport information

#### Land transport (ADR/RID)

##### Other applicable information (land transport)

No dangerous good in sense of this transport regulation.

#### Inland waterways transport (ADN)

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

No dangerous good in sense of this transport regulation.

#### Marine transport (IMDG)

##### Other applicable information (marine transport)

No dangerous good in sense of this transport regulation.

#### Air transport (ICAO)

**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

#### 14.5. Environmental hazards

Dangerous for the environment: no

#### 14.6. Special precautions for user

No information available.

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

No information available.

### 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): ~27% % Data concerning the Directive 1999/13/EC on the limitation of emissions of volatile organic compounds (VOC-RL)

##### Additional information

1967/548 (2008/58, 30. ATP/ 31. ATP); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EWG (2008/47/EG)

##### 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

#### Changes

Rev 1,00 Initial release , 24.03.2013

#### 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)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association

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IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
NOAEL: No observed adverse effect level

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

07	May cause fire.
10	Flammable.
21/22	Harmful in contact with skin and if swallowed.
23	Toxic by inhalation.
23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
33	Danger of cumulative effects.
34	Causes burns.
35	Causes severe burns.
36/37/38	Irritating to eyes, respiratory system and skin.
36/38	Irritating to eyes and skin.
37	Irritating to respiratory system.
43	May cause sensitisation by skin contact.
48/20/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
51	Toxic to aquatic organisms.
52	Harmful to aquatic organisms.
53	May cause long-term adverse effects in the aquatic environment.
65	Harmful: may cause lung damage if swallowed.

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

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

#### 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.

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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.)*