

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Best-MK 2236

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

##### 1.1. Product identifier

Best-MK 1326

##### 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: 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 Irrit. 2  
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 irritation.  
May cause respiratory irritation.

##### 2.2. Label elements

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

methacrylic acid, monoester with propane-1,2-diol  
2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate  
acrylic acid, prop-2-enoic acid  
cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide

Signal word: Warning

Pictograms: GHS07

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### Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

### Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container to disposal according to official regulations.

### Special labelling of certain mixtures

EUH208	Contains n-Butylmethacrylate, Methylmethacrylate.. May produce an allergic reaction.
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## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

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#### Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
248-666-3	methacrylic acid, monoester with propane-1,2-diol	45 - 50 %
27813-02-1	Xi - Irritant R36-43	
	Eye Irrit. 2, Skin Sens. 1; H319 H317	
239-701-3	2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate	30 - 35 %
15625-89-5	Xi - Irritant R36/38-43	
607-111-00-9	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1; H319 H315 H317	
201-177-9	acrylic acid, prop-2-enoic acid	1 - 5 %
79-10-7	C - Corrosive, Xn - Harmful, N - Dangerous for the environment R10-20/21/22-35-50	
607-061-00-8	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1A, Aquatic Acute 1; H226 H332 H312 H302 H314 H400	
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	
204-055-3	2'-Phenylacetohydrazide	< 1 %
114-83-0	Xn - Harmful, Xi - Irritant R22-36/37/38-43	
	Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3; H301 H315 H319 H317 H335	
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	

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

#### 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

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of allergic symptoms especially in the breathing area, seek medical advice 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

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

###### After ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Let water be swallowed in little sips (dilution effect). Never give anything by mouth to an unconscious person or a person with cramps. In all cases of doubt, or when symptoms persist, seek medical advice.

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

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: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

#### **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.

Avoid contact with skin.

#### **6.2. Environmental precautions**

Do not empty into drains or the aquatic environment.

#### **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.

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

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

Wear suitable protective clothing. ( Refer to chapter 8. )

##### **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.

##### **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**

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#### 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

#### 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. Remove contaminated clothing immediately and dispose off safely. 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.

##### Respiratory protection

Respiratory protection required in case of:  
 exceeding critical value  
 Suitable respiratory protective equipment:  
 Combination filter device (DIN EN 141).. Type : A / P-2/3

##### 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

Suitable protection of the body: Lab apron.

##### Environmental exposure controls

Dumping into the environment must be prevented.

## SECTION 9: Physical and chemical properties

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

Physical state: Paste  
 Colour: blue  
 Odour: Acrylate. characteristic

##### Test method

pH-Value: n/a

##### Changes in the physical state

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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
Water solubility:	practically insoluble
Viscosity / dynamic:	5.000 mPa·s

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

not known

### 10.2. Chemical stability

Stable under normal storage and handling conditions.

### 10.3. Possibility of hazardous reactions

not known

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

Materials to avoid: Strong acid. Oxidizing agents, strong. Alkalis (alkalis), concentrated.

### 10.6. Hazardous decomposition products

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

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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#### Acute toxicity

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
27813-02-1	methacrylic acid, monoester with propane-1,2-diol				
	oral	LD50	6162 mg/kg	Rat.	
79-10-7	acrylic acid, prop-2-enoic acid				
	oral	LD50	> 192 mg/kg	Rat	
	dermal	LD50	> 290 mg/kg	Kaninchen	
	inhalative (4 h) vapour	LC50	>5,1 mg/l	Rat	Echa Dossier
	inhalative (0 h) aerosol	ATE	1,5 mg/l		
80-15-9	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide				
	oral	LD50	382 mg/kg	Rat.	
	dermal	LD50	500 mg/kg	Rat.	
	inhalative (4 h) vapour	LC50	(200) mg/l	Mouse.	
	inhalative (0 h) aerosol	ATE	0,5 mg/l		
114-83-0	2'-Phenylacetohydrazide				
	oral	LD50	270 mg/kg	Mouse.	
98-82-8	cumene				
	oral	LD50	1400 mg/kg	Rat.	

#### Irritation and corrosivity

Irritant effect on the eye: irritant.

Irritant effect on the skin: irritant.

#### Sensitising effects

methacrylic acid, monoester with propane-1,2-diol:

Respiratory or skin sensitisation:

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

methacrylic acid, monoester with propane-1,2-diol

NOAEL = 0,5 mg/l (21d) Rat. Subacute inhalative toxicity

acrylic acid, prop-2-enoic acid:

NOAEL = 40 mg/kg (90d) Rat. Subchronic oral toxicity

LOAEL = 0,015 mg/l (90d) Rat. Subchronic inhalative toxicity

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

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

methacrylic acid, monoester with propane-1,2-diol:

Evidence exists for mutagenicity in vivo .

cumene:

No experimental indications of mutagenicity in-vitro exist.

cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide:

There is Evidence for: In-vitro mutagenicity

The statement is derived from the properties of the components.: No evidence for: Carcinogenicity

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## SECTION 12: Ecological information

### 12.1. Toxicity

CAS No	Chemical name	Method	Dose	h	Species	Source
	Aquatic toxicity					
27813-02-1	methacrylic acid, monoester with propane-1,2-diol					
	Acute fish toxicity	LC50	833 mg/l	96	Scophthalmus maximus	
	Acute crustacea toxicity	EC50	>130 mg/l	48	daphnia magna	
79-10-7	acrylic acid, prop-2-enoic acid					
	Acute fish toxicity	LC50	27 mg/l	96	Onchorhynchus mykiss	Echa Dossier
	Acute algae toxicity	ErC50	0,13 mg/l	72	Scenedesmus sp.	
	Acute crustacea toxicity	EC50	95 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

methacrylic acid, monoester with propane-1,2-diol  
 Easily biodegradable (concerning to the criteria of the OECD)  
 OECD 301C / ISO 9408 / EEC 92/69 annex V, C.4-F (28d) > 81%

cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide:  
 Not easily bio-degradable (according to OECD-criteria).  
 OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C (28 d) = 3%

2-hydroxyethyl methacrylate:  
 Easily biodegradable (concerning to the criteria of the OECD)  
 OECD 301C / ISO 9408 / EEC 92/69 annex V, C.4-F (14d) > 92%

acrylic acid, prop-2-enoic acid:  
 Easily biodegradable (concerning to the criteria of the OECD)  
 OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C (5d) = 100%

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 indication of bio-accumulation potential.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
27813-02-1	methacrylic acid, monoester with propane-1,2-diol	0,97
79-10-7	acrylic acid, prop-2-enoic acid	0,35
80-15-9	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide	2,16
98-82-8	cumene	3,55



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#### **12.4. Mobility in soil**

No information available.

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

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.

### SECTION 14: Transport information

#### **Land transport (ADR/RID)**

**14.1. UN number:** Not restricted

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

Not restricted

#### **Inland waterways transport (ADN)**

**14.1. UN number:** Not restricted

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

Not restricted

#### **Marine transport (IMDG)**

**14.1. UN number:** Not restricted

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

Not restricted

#### **Air transport (ICAO)**

**14.1. UN number:** Not restricted

**14.2. UN proper shipping name:** Not restricted

#### **14.5. Environmental hazards**

Dangerous for the environment: no

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### 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): not determined

##### National regulatory information

Employment restrictions: Observe employment restrictions for young people.

Water contaminating class (D): 3 - highly 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 29.01.13

#### 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

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

OSHA: Concerning the International Transport of Dangerous Goods by Rail)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

LOAEL: Lowest observed adverse effect level

NOAEC: No observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

DNEL: Derived No Effect Level

PNEC: predicted no effect concentration

TSCA: Toxic Substances Control Act

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

NTP: National Toxicology Program

SARA: Superfund Amendments and Reauthorization Act

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

PBT: Persistent bioaccumulative toxic

SVHC: substance of very high concern

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

07	May cause fire.
10	Flammable.
20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
21/22	Harmful in contact with skin and if swallowed.
22	Harmful if swallowed.
23	Toxic by inhalation.
34	Causes burns.

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35	Causes severe burns.
36	Irritating to eyes.
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.
50	Very toxic to aquatic organisms.
51	Toxic 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.
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.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic 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.)*