

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Best-MK 2336

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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. |
|--------|--|

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 (CO₂).

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 ³ | 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: green
 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: | 4.000 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 (CO₂).

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/m³
 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.

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