

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.10.2017

Version number 7

Revision: 23.10.2017


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

- 1.1 Product identifier
- Trade name: **KEMPEROL 2K-PUR (B)**
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- Application of the substance / the mixture: Identified use: intended for professional use only!
Waterproofing
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier: KEMPER SYSTEM GmbH & Co. KG
Holländische Strasse 32-36
34246 Vellmar
Deutschland / Germany
Telefon: +49 (0)561 / 8295-0
Telefax: +49 (0)561 / 8295-5110
E-Mail: MSDS@KEMPER-SYSTEM.COM
- Further information obtainable from: research & development
- 1.4 Emergency telephone number: Giftinformationszentrum der Länder Rheinland-Pfalz und Hessen
Langenbeckstraße 1; Gebäude 601; 55131 Mainz
Tel. Nr.: +49 (0)6131 / 19 24 0
Universitätsmedizin der Johannes Gutenberg-Universität Mainz


SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008
- Acute Tox. 4 H332 Harmful if inhaled.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2 H319 Causes serious eye irritation.
- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- Carc. 2 H351 Suspected of causing cancer.
- STOT SE 3 H335 May cause respiratory irritation.
- STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

- 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms



GHS07



GHS08

The product is classified and labelled according to the CLP regulation.

- Signal word: Danger
- Hazard-determining components of labelling: Isocyanic acid, polymethylenepolyphenylene ester
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate
4,4'-methylenediphenyl diisocyanate
- Hazard statements: H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
- Precautionary statements: P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 [In case of inadequate ventilation] wear respiratory 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.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Additional information: EUH204 Contains isocyanates. May produce an allergic reaction.
- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.

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- vPvB: Not applicable.

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SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures

- **Description:** Mixture: consisting of the following components.

- Dangerous components:

CAS: 9016-87-9 EC number: 618-498-9	Isocyanic acid, polymethylenepolyphenylene ester Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
EC number: 905-806-4 Reg.nr.: 01-2119457015-45	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	10-12.5%
CAS: 101-68-8 EINECS: 247-714-0 Index number: 615-005-00-9 Reg.nr.: 01-2119457014-47	4,4'-methylenediphenyl diisocyanate Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	2.5-10%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures

- General information:

Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Do not leave affected persons unattended.
Personal protection for the First Aider.
Take affected persons out of danger area and lay down.
In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.

- After inhalation:

- After skin contact:

- After eye contact:

- After swallowing:

- 4.2 Most important symptoms and effects, both acute and delayed

- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media

- Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.

- 5.2 Special hazards arising from the substance or mixture

Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Formation of toxic gases is possible during heating or in case of fire.

- 5.3 Advice for firefighters

- Protective equipment:

Mouth respiratory protective device.
Do not inhale explosion gases or combustion gases.

- Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Avoid contact with skin and eyes

- 6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.
Prevent from spreading (e.g. by damming-in or oil barriers).
Do not allow to enter sewers/ surface or ground water.

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- 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.

- 6.4 Reference to other sections

Do not flush with water or aqueous cleansing agents
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling

Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

- 7.2 Conditions for safe storage, including any incompatibilities
- Storage:
- Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

- Information about storage in one common storage facility:

Store away from foodstuffs.

- Further information about storage conditions:

Recommended storage temperature: 10-30 °C
Protect from frost.
Store in dry conditions.
Keep container tightly sealed.

- 7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities:

No further data; see item 7.

- 8.1 Control parameters
- Ingredients with limit values that require monitoring at the workplace:
9016-87-9 Isocyanic acid, polymethylenepolyphenylene ester

WEL Short-term value: 0.07 mg/m³
Long-term value: 0.02 mg/m³
Sen; as -NCO

101-68-8 4,4'-methylenediphenyl diisocyanate

WEL Short-term value: 0.07 mg/m³
Long-term value: 0.02 mg/m³
Sen; as -NCO

- DNELs
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

Dermal	Acute - systemic effects	50 mg/kg (worker)
	Acute - local effects	28.7 mg/cm ² (worker)
Inhalative	Acute - systemic effects	0.1 mg/m ³ (worker)
	Acute - local effects	0.1 mg/m ³ (worker)
	Long term - systemic effects	0.05 mg/m ³ (worker)
	Long term - local effects	25 mg/m ³ (consumer) 0.05 mg/m ³ (worker)

- 8.2 Exposure controls
- Personal protective equipment:

- General protective and hygienic measures: The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- Respiratory protection:

When used properly and under normal conditions, breathing protection is not required.
Use suitable respiratory protective device in case of insufficient ventilation.
Filter A/P2
Respiratory protection - Gas filters and combination filters according to EN 141

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- Protection of hands:



Protective gloves

Check protective gloves prior to each use for their proper condition. Only use chemical-protective gloves with CE-labelling of category III. 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 the degradation. After use of gloves apply skin-cleaning agents and skin cosmetics.

- Material of gloves

Recommended materials:
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.5 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- Penetration time of glove material

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

- As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.1 mm
Penetration time (min.): <10

- Eye protection:



Tightly sealed goggles

Protective goggles and facial protection - Classification according to EN 166

- Body protection:

Protective work clothing
Impervious protective clothing

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Fluid
Colour: Brown
- Odour: slight musty
- Odour threshold: Not determined.

- pH-value: Not determined.

- Change in condition

Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: Undetermined.

- Flash point: 208 °C

- Flammability (solid, gas): Not applicable.

- Ignition temperature:

Decomposition temperature: Not determined.

- Auto-ignition temperature: Product is not selfigniting.

- Explosive properties: Product does not present an explosion hazard.

- Explosion limits:

Lower: Not determined.
Upper: Not determined.

- Density at 20 °C: 1.23 g/cm³

- Relative density Not determined.

- Vapour density Not determined.

- Evaporation rate Not determined.

- Solubility in / Miscibility with water:

Not miscible or difficult to mix.

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- Partition coefficient: n-octanol/water:	Not determined.
- Viscosity:	
Dynamic at 23 °C:	110 mPas
Kinematic:	Not determined.
- Solvent content:	
VOC (EC)	2.50 %
- 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity	No further relevant information available.
- 10.2 Chemical stability	
- Thermal decomposition / conditions to be avoided:	No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions	Reacts with alcohols, amines, aqueous acids and alkalis. Reacts with water. Reacts with humid air. Exothermic reaction.
- 10.4 Conditions to avoid	No further relevant information available.
- 10.5 Incompatible materials:	No further relevant information available.
- 10.6 Hazardous decomposition products:	Hydrocarbons Carbon monoxide and carbon dioxide Nitrogen oxides (NOx)

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects	
- Acute toxicity	Harmful if inhaled.

- LD/LC50 values relevant for classification:

9016-87-9 Isocyanic acid, polymethylenepolyphenylene ester

Oral	LD50	>10,000 mg/kg (rat)
Dermal	LD50	>9,400 mg/kg (rabbit)
Inhalative	LC50/4 h	11 mg/l (ATE)

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

Oral	LD50	>10,000 mg/kg (rat)
Dermal	LD50	>9,400 mg/kg (rab)
Inhalative	LC50/4 h	11 mg/l (ATE)

101-68-8 4,4'-methylenediphenyl diisocyanate

Inhalative	LC50/4 h	11 mg/l (ATE)
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- Primary irritant effect:	
- Skin corrosion/irritation	Causes skin irritation.
- Serious eye damage/irritation	Causes serious eye irritation.
- Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)	Carc. 2
- Germ cell mutagenicity	Based on available data, the classification criteria are not met.
- Carcinogenicity	Suspected of causing cancer.
- Reproductive toxicity	Based on available data, the classification criteria are not met.
- STOT-single exposure	May cause respiratory irritation.
- STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
- Aspiration hazard	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- 12.1 Toxicity

- Aquatic toxicity:

9016-87-9 Isocyanic acid, polymethylenepolyphenylene ester

LC50/96 h	>1,000 mg/l (fish)
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EC50	>1,640 mg/l (ALGAE)
EC50	>100 mg/l (Bacteria)
EC50	>1,000 mg/l (daphnia)

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

LC50/96 h	>1,000 mg/l (fish)
EC50	>100 mg/l (Bacteria)
EC50	>1,000 mg/l (daphnia)

- | | |
|--|--|
| <ul style="list-style-type: none"> - 12.2 Persistence and degradability - 12.3 Bioaccumulative potential - 12.4 Mobility in soil - Additional ecological information: - General notes:
 - 12.5 Results of PBT and vPvB assessment - PBT: - vPvB: - 12.6 Other adverse effects | <p>No further relevant information available.</p> <p>No further relevant information available.</p> <p>No further relevant information available.</p> <p>Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>No further relevant information available.</p> |
|--|--|

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
 - **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Disposal according to official regulations
- | | |
|-----------------------------------|--|
| - European waste catalogue | |
| 08 04 09* | waste adhesives and sealants containing organic solvents or other hazardous substances |
| 08 04 10 | waste adhesives and sealants other than those mentioned in 08 04 09 |
- **Uncleaned packaging:**
 - **Recommendation:**

Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|--|-----------------|
| - 14.1 UN-Number | Void |
| - ADR, ADN, IMDG, IATA | Void |
| - 14.2 UN proper shipping name | Void |
| - ADR, ADN, IMDG, IATA | Void |
| - 14.3 Transport hazard class(es) | Void |
| - ADR, ADN, IMDG, IATA | Void |
| - Class | Void |
| - 14.4 Packing group | Void |
| - ADR, IMDG, IATA | Void |
| - 14.5 Environmental hazards: | |
| - Marine pollutant: | No |
| - 14.6 Special precautions for user | Not applicable. |
| - 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| - UN "Model Regulation": | Void |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I**

None of the ingredients is listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII**

Conditions of restriction: 3, 56a
- **National regulations:**
- **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

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- 15.2 Chemical safety assessment:

Employment restrictions concerning pregnant and lactating women must be observed.
 Employment restrictions concerning women of child-bearing age must be observed.
 A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 May cause respiratory irritation.
 H351 Suspected of causing cancer.
 H373 May cause damage to organs through prolonged or repeated exposure.

- Department issuing SDS:

research & development

- Contact:

research & development

- 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 Harmonised 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 (division of the American Chemical Society)
 VOC: Volatile Organic Compounds (USA, EU)
 DNEL: Derived No-Effect Level (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Resp. Sens. 1: Respiratory sensitisation – Category 1
 Skin Sens. 1: Skin sensitisation – Category 1
 Carc. 2: Carcinogenicity – Category 2
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- Sources

Internet:
 - www.echa.com
 - www.baua.de
 - www.gestis.itrust.de (IFA: Institute für Occupational Safety and Health of the German Social Accident Insurance)

- * Data compared to the previous version altered.