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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name

beko PERI-Schaum B3

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

UFI: 3PTV-U050-400K-FF66

Relevant identified uses

Filler, sealant.

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Supplier

beko GmbH

Address: Rappenfeldstr. 5, DE-86653 Monheim

Tel.: +49 (0) 9091 90898-0 Telefax: +49 (0) 9091 90898-29 E-Mail: info@beko-group.com www.beko-group.com

1.4. Emergency telephone number

Emergency

Poison Control Center Mainz - 24 hour emergency service - phone: +49 (0) 6131/19240

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Aerosol 1; H222 Extremely flammable aerosol.

Aerosol 1; H229 Pressurised container: May burst if heated.

Acute Tox. 4; H302 Harmful if swallowed. Skin Irrit. 2; H315 Causes skin irritation.

Skin Sens. 1; H317 May cause an allergic skin reaction.

Eye Irrit. 2; H319 Causes serious eye irritation.

Acute Tox. 4; H332 Harmful if inhaled.

Resp. Sens. 1; H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

STOT SE 3; H335 May cause respiratory irritation.

Carc. 2; H351 Suspected of causing cancer.

Lact.; H362 May cause harm to breast-fed children.

STOT RE 2; H373 May cause damage to organs through prolonged or repeated exposure.

Aquatic Chronic 4; H413 May cause long lasting harmful effects to aquatic life.

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2.2 Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]







Signal word: Danger

H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.

H302 Harmful if swallowed.

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.

H362 May cause harm to breast-fed children.

H373 May cause damage to organs through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.

EUH066 Repeated exposure may cause skin dryness or cracking.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P273 Avoid release to the environment.

P302 + P352 + P362 + P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

P410 + P412 Protect from sunlight. Do no expose to temperatures exceeding 50 °C/122°F.

P501 Dispose of contents/container in accordance with national regulation.

2.2.2. Contains:

diphenylmethanediisocyanate, isomeres and homologues (CAS: 9016-87-9)

polyetherpolyol (CAS: 25791-96-2)

alkanes, C14-17, chloro (CAS: 85535-85-9, EC: 287-477-0, Index: 602-095-00-X)

2.2.3. Special provisions

MDI notice

Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

2.3. Other hazards

Vapors can form an explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

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3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	<50	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Acute Tox. 4; H332 Resp. Sens. 1; H334 STOT SE 3; H335 Carc. 2; H351 STOT RE 2; H373		-
polyetherpolyol	25791-96-2 -	10-25	Acute Tox. 4; H302		-
alkanes, C14-17, chloro	85535-85-9 287-477-0 602-095-00-X	10-25	Lact.; H362 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 EUH066		01-2119519269-33
dimethyl ether [U]	115-10-6 204-065-8 603-019-00-8	2,5-10	Flam. Gas 1; H220 Press. Gas; H280		01-2119472128-37
isobutane [C, U]	75-28-5 200-857-2 601-004-00-0	2,5-10	Flam. Gas 1; H220 Press. Gas; H280		01-2119485395-27
propane ^[U]	74-98-6 200-827-9 601-003-00-5	2,5-10	Flam. Gas 1; H220 Press. Gas; H280		01-2119486944-21

Notes for substances:

C Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers.

In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

U When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned:

Press. Gas (Comp.)

Press. Gas (Liq.)

Press. Gas (Ref. Liq.)

Press. Gas (Diss.)

Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Note 2).

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

Take off all contaminated clothing immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency.

Use personal protective equipment. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. When it is suspected, that there may still be harmful vapours/fumes present in the air, respiratory protection (mask; self contained breathing apparatus) must be used.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If victim is not breathing give artificial respiration. If breathing is difficult, give oxygen. Seek medical help immediately. Victim should rest in a warm place. In case of unconsciousness bring patient into stable side position and seek medical attention.

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Following skin contact

Immediately remove contaminated clothing. Wash affected skin areas thoroughly with plenty of water and soap. Consult a physician.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. Seek medical help.

Following ingestion

Ingestion is unlikely to occur. Accidental ingestion: Rinse mouth thoroughly with water. Consult a physician. Show the physician the safety data sheet or label.

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

Inhalation

Harmful.

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Can cause irritation of respiratory system.

Coughing, sneezing, nasal discharge, labored breathing.

Skin contact

Irritating to the skin.

Itching, redness, pain.

May cause sensitisation by skin contact (itching, redness, rashes).

Eye contact

Strongly irritates the eyes.

Redness, tearing, pain.

Ingestion

Not likely.

Accidental ingestion:

Harmful to health.

May cause abdominal discomfort.

May cause nausea/vomiting and diarrhea.

Irritates mucous membranes in the mouth, throat, esophagus and in gastrointestinal area.

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

Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂).

Foam.

Fire extinguishing powder.

Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO₂).

Nitrogen oxides (NO_x).

Vapours of Isocyanates.

Hydrogen cyanide (HCN).

Hydrogen chloride (HCI).

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5.3. Advice for firefighters

Protective actions

Extremely flammable. Container is under pressure. Prolonged heating can cause an explosion. Vapours can form explosive mixtures with air. In case of fire or heating do not breathe fumes/vapours. In case of fire evacuate the area. No action shall be taken involving any personal risk or without suitable training. Extinguish the fire from where the wind blows. Keep adjacent containers cool by spraying them with water. Prevent spillage from the containers and place them in a safe place, if this does not endanger your health.

Special protective equipment for firefighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Prevent the release of extinguishing media into the environment. Contaminated extinguishing agents must be disposed of in accordance with the regulations; do not allow to reach the sewage system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8). Use breathing protection against effects of steam/dust/aerosol.

Emergency procedures

Ensure adequate ventilation. Keep away from sources of ignition and/or heat; No smoking! No action shall be taken involving any personal risk or without suitable training. Prevent access to unprotected personnel. Prevent access to unauthorised personnel. Avoid contact with skin, eyes and clothing. Do not breathe vapour or mist.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Stem the spill if this does not pose risks.

6.3.2. For cleaning up

Collect the spray cans and hand them over to an authorized waste disposal contractor. Release of liquid because of damaged aerosol can (release of large quantities): Large quantities cover with damp sand. After aprox. one hour transfer to waste container and do not seal (evolution of CO2!). Do not absorb spillage with sawdust or other combustible material. Dispose in accordance with applicable regulations (see Section 13).

6.3.3. Other information

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6.4. Reference to other sections

See also Sections 8 and 13.

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SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

Ensure adequate ventilation. Vapours and air form explosive mixtures. Keep away from sources of ignition - no smoking. Use spark-proof tools. Take precautionary measures against static discharges. Pressurized container; protect from sunlight and do not expose to tempratures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or incandescent material.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Avoid release to the environment.

7.1.2. Advice on general occupational hygiene

Refer to instructions on label and regulations for safety and health at work. Consider measures required in Section 8 of this safety data sheet. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/mist.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Store in accordance with local regulations. Keep in well closed containers. Keep in cool and well ventilated area. Keep in a dry place. Keep away from sources of ignition. Protect from open fire, heat and direct sunlight. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs.

7.2.2. Packaging materials

Store only in original container.

7.2.3. Requirements for storage rooms and vessels

Do not store in unlabelled containers.

7.2.4. Storage class

-

7.2.5. Further information on storage conditions

-

7.3. Specific end use(s)

Recommendations

-

Industrial sector specific solutions

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

Name (CAS)	Limit v	/alues	Short-term exposure limit		Remarks	Biological Tolerance Values	
	ml/m ³ mg/m ³ (ppm)		ml/m ³ mg/m ³ (ppm)				
Dimethyl ether (115-10-6)	400	766	500	958			
2,2'-Oxydiethanol (111-46-6)	23	101					
Isocyanates, all (as –NCO) Except methyl isocyanate (-)		0,02		0,07	Sen	1 μmol isocyanate- derived diamine/mol creatinine in urine - At the end of the period of exposure	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)					Biological monitoring guidance values: Isocyanates (applies to HDI, IPDI, TDI and MDI): 1 µmol isocyanate-derived diamine/mol creatinine in urine; sampling time: at the end of the period of exposure.		

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values.

8.1.3. DNEL/DMEL values

For components

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Name	Туре	Exposure route	Exposure frequency	Value	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	Worker	inhalation	long term (local effects)	0,05 mg/m ³	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	Worker	inhalation	short term (local effects)	0,1 mg/m ³	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	Consumer	inhalation	long term (local effects)	0,025 mg/m ³	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	Consumer	inhalation	short term (local effects)	0,05 mg/m ³	
polyetherpolyol (25791-96-2)	Worker	inhalation	long term (systemic effects)	98 mg/m ³	
polyetherpolyol (25791-96-2)	Worker	dermal	long term (systemic effects)	13,9 mg/kg bw/day	
polyetherpolyol (25791-96-2)	Consumer	inhalation	long term (systemic effects)	29 mg/m ³	
polyetherpolyol (25791-96-2)	Consumer	dermal	long term (systemic effects)	8,3 mg/kg bw/day	
polyetherpolyol (25791-96-2)	Consumer	oral	long term (systemic effects)	8,3 mg/kg bw/day	
alkanes, C14-17, chloro (85535-85-9)	Worker	inhalation	long term (systemic effects)	6,7 mg/m ³	
alkanes, C14-17, chloro (85535-85-9)	Worker	dermal	long term (systemic effects)	47,9 mg/kg bw/day	
alkanes, C14-17, chloro (85535-85-9)	Consumer	inhalation	long term (systemic effects)	2 mg/m ³	
alkanes, C14-17, chloro (85535-85-9)	Consumer	dermal	long term (systemic effects)	28,75 mg/kg bw/day	
alkanes, C14-17, chloro (85535-85-9)	Consumer	oral	long term (systemic effects)	0,58 mg/kg bw/day	
dimethyl ether (115-10-6)	Worker	inhalation	long term (systemic effects)	1894 mg/m ³	
dimethyl ether (115-10-6)	Consumer	inhalation	long term (systemic effects)	471 mg/m ³	

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8.1.4. PNEC values

For components

Name	Exposure route	Value	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	fresh water	1 mg/L	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	water, intermittent release	10 mg/L	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	marine water	0,1 mg/L	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	water treatment plant	1 mg/L	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	soil	1 mg/kg	dry weight
polyetherpolyol (25791-96-2)	fresh water	0,2 mg/L	
polyetherpolyol (25791-96-2)	water, intermittent release	1 mg/L	
polyetherpolyol (25791-96-2)	marine water	0,02 mg/L	
polyetherpolyol (25791-96-2)	water treatment plant	1000 mg/L	
polyetherpolyol (25791-96-2)	fresh water sediment	0,52 mg/kg	dry weight
polyetherpolyol (25791-96-2)	marine water sediment	0,052 mg/kg	dry weight
polyetherpolyol (25791-96-2)	soil	0,067 mg/kg	dry weight
alkanes, C14-17, chloro (85535-85-9)	fresh water	1 μg/L	
alkanes, C14-17, chloro (85535-85-9)	marine water	0,2 μg/l	
alkanes, C14-17, chloro (85535-85-9)	water treatment plant	80 mg/L	
alkanes, C14-17, chloro (85535-85-9)	fresh water sediment	13 mg/kg	dry weight
alkanes, C14-17, chloro (85535-85-9)	marine water sediment	2,6 mg/kg	dry weight
alkanes, C14-17, chloro (85535-85-9)	soil	11,9 mg/kg	dry weight
alkanes, C14-17, chloro (85535-85-9)	food chain	10 mg/kg feed	oral
dimethyl ether (115-10-6)	fresh water	0,155 mg/L	
dimethyl ether (115-10-6)	water, intermittent release	1,549 mg/L	
dimethyl ether (115-10-6)	marine water	0,016 mg/L	
dimethyl ether (115-10-6)	water treatment plant	160 mg/L	
dimethyl ether (115-10-6)	fresh water sediment	0,681 mg/kg	dry weight
dimethyl ether (115-10-6)	marine water sediment	0,069 mg/kg	dry weight
dimethyl ether (115-10-6)	soil	0,045 mg/kg	dry weight

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/aerosols. Keep away from foodstuffs, beverages and feed. Keep working clothes separately.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

8.2.2. Personal protective equipment

Eye and face protection

Safety glasses with side protection (EN 166).

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Hand protection

Use chemical resistant gloves classified according to standard EN 374. Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately. Follow the manufacturer's instructions about permeability and penetration times and specific workplace conditions (mechanic load, exposure duration). The penetration time is determined by the protective glove manufacturer and must be observed.

Skin protection

Wear suitable protective clothing. Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

Wear suitable protective breathing mask (EN 136) with filter A2-P2 (EN 14387). For dust/gas/ vapor concentrations above the applicable filter limit, in case of oxygen concentrations below 17% or in vague conditions, autonomous self-contained breathing apparatus should be used, according to standard EN 137, EN 138.

Thermal hazards

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8.2.3. Environmental exposure controls

Instruction measures to prevent exposure

If the products contaminates rivers and lakes or the sewage system, please notify the competent authorities.

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

-	Physical state:	liquid; aerosol
-	Colour:	beige, coloured
-	Odour:	

Important health, safety and environmental information

-	pH	No information.
-	Melting point/freezing point	No information.
-	Initial boiling point/boiling range	No information.
-	Flash point	No information.
-	Evaporation rate	No information.
-	Flammability (solid, gas)	No information.
-	Explosion limits (vol%)	1,5 – 10,9 vol % (isobutane / propane) 3,3 – 26,2 vol % (dimethylether)
-	Vapour pressure	0,013 hPa at 20 °C (diethylene glycol)
-	Vapour density	No information.
-	Density	Density: 1,164 kg/L at 20 °C
-	Solubility	No information.
-	Partition coefficient	No information.
-	Auto-ignition temperature	No information.
-	Decomposition temperature	No information.
-	Viscosity	No information.
-	Explosive properties	No information.
-	Oxidising properties	No information.
	Oxidising properties	No information.

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9.2. Other information

-	Weight organic solvents	179 g/l (VOC) 18 % (VOC)
-	Remarks:	

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

No data available.

10.3. Possibility of hazardous reactions

Exothermic reaction with amines and alcohols. 4,4'-methylenediphenyl diisocyanate polymerizes at ca. 200 ° C, CO2 is released.

10.4. Conditions to avoid

Keep away from moisture. Avoid all possible sources of ignition (spark or flame). Do not expose to sunlight or temperatures above 50 ° C. Containers may explode when exposed to heat for too long. Vapours and air can form explosive mixtures.

10.5. Incompatible materials

Water. Strong oxidising agents.

Alkaline metals and alkaline earth metals;

Iron. Zinc.

Aluminium. HF (hydrofluoric acid). Oxygen. Rubber. Viton.

Peroxide.

10.6. Hazardous decomposition products

In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	oral	LD ₅₀	rat		> 10000 mg/kg	OECD 401	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	dermal	LD ₅₀	rabbit		> 9400 mg/kg	OECD 402	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation (dusts/mists)	LC ₅₀	rat	4 h	0,31 mg/l	OECD 403	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation (dusts/mists)	ATE			1,5 mg/l		Expert judgment
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation	-					Harmful if inhaled.
polyetherpolyol (25791-96-2)	oral	-					Harmful if swallowed.
alkanes, C14-17, chloro (85535-85-9)	oral	LD ₅₀	rat		≥ 2000 mg/kg bw		
dimethyl ether (115-10-6)	Inhalation (gases)	LC ₅₀	rat	4 h	309 mg/l		

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(b) Skin corrosion/irritation

Name	Species	Time	Result	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	rabbit		Mild irritating.	OECD 404	
alkanes, C14-17, chloro (85535-85-9)			Can cause mild irritation.		
dimethyl ether (115-10-6)			May cause frostbite.		
Additional information: Causes skin irritation.					

(c) Serious eye damage/irritation

Name	Species	Time	Result	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	rabbit		No irritant effect.	OECD 405	
alkanes, C14-17, chloro (85535-85-9)			Can cause mild irritation.		
Additional information: Causes serious eye irritation.					

(d) Respiratory or skin sensitisation

Name	Exposure route	Species	Time	Result	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87- 9)	dermal	guinea pig		Non sensitising.	OECD 406, Magnusson & Kligman test	
diphenylmethanediisocyanate, isomeres and homologues (9016-87- 9)	dermal	mouse		Sensitizing.	OECD 429	LLNA (Local Lymph Node Assay)
diphenylmethanediisocyanate, isomeres and homologues (9016-87- 9)	inhalation	rat		May cause sensitisation by inhalation.		
alkanes, C14-17, chloro (85535-85-9)	-			According to known data the substance is not a chemical sensitizer.		

Additional information: May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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(e) (Germ cell) mutagenicity

Name	Туре	Species	Time	Result	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87- 9)	in-vitro mutagenicity	Salmonella typhimurium		Negative with metabolic activation, negative without metabolic activation.	Ames test, OECD 471	
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	in-vivo mutagenicity	rat (male)	3 weeks	Negative.	OECD 474	inhalation ; 3 x 1 h per day
diphenylmethanediisocyanate, isomeres and homologues (9016-87- 9)	in-vitro mutagenicity			Negative. Based on available data, the classification criteria are not met.		
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	in-vivo mutagenicity			Negative. Based on available data, the classification criteria are not met.		
alkanes, C14-17, chloro (85535-85-9)				The chemical is not classified as mutagenic.		
dimethyl ether (115-10-6)				The chemical is not classified as mutagenic.		
dimethyl ether (115-10-6)	in-vitro mutagenicity			Negative.	OECD 471	Ames test
dimethyl ether (115-10-6)	in-vitro mutagenicity	Human (lymphocytes)		Negative.	cytogenetic test	OECD 473
dimethyl ether (115-10-6)	in-vivo mutagenicity	Drosophila melanogaster		Negative.	OECD 477	

(f) Carcinogenicity

Name	Exposure route	Туре	Species	Time	Value	Result	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation (aerosol)		rat			The presence of tumors in the group with the largest dose.	OECD 453	5 days per week, 6 h per day; dose level: 0; 0,2; 1; 6 mg/m3
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation					Suspected of causing cancer.		
alkanes, C14-17, chloro (85535-85-9)						Based to our knowledge and experience there are no adverse health effects expected if handled as recommended.		
dimethyl ether (115-10-6)						Substance is not classified as carcinogenic.		

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(g) Reproductive toxicity

Name	Reproductive toxicity type	Туре	Species	Time	Value	Result	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016- 87-9)	Teratogenicity	NOAEL	rat (female)	20 days	12 mg/m³	Did not show teratogenic effects in animal experiments.	OECD 414	6 h per day; inhalation, dose: 0; 1; 4; 12 mg/m3
diphenylmethanediisocyanate, isomeres and homologues (9016- 87-9)	Maternal toxicity	NOAEL	rat (female)	20 days	4 mg/m³		OECD 414	6 h per day; inhalation, dose: 0; 1; 4; 12 mg/m3
diphenylmethanediisocyanate, isomeres and homologues (9016- 87-9)	Developmental toxicity	NOAEL	rat (female)	20 days	4 mg/m³		OECD 414	6 h per day; inhalation, dose: 0; 1; 4; 12 mg/m3
diphenylmethanediisocyanate, isomeres and homologues (9016- 87-9)	Teratogenicity					Based on available data, the classification criteria are not met.		
diphenylmethanediisocyanate, isomeres and homologues (9016- 87-9)	Reproductive toxicity					Based on available data, the classification criteria are not met.		
alkanes, C14-17, chloro (85535- 85-9)	Reproductive toxicity					May cause harm to breast-fed children.		
dimethyl ether (115-10-6)	Reproductive toxicity	inhalation	rat		47 mg/L	Animal testing did not show any effects on fertility.	OECD 452	
dimethyl ether (115-10-6)	Maternal toxicity	NOAEL	rat		5000 ppm			Inhalation
dimethyl ether (115-10-6)	Teratogenicity	NOAEL	rat		40000 ppm			Inhalation
dimethyl ether (115-10-6)	Developmental toxicity	NOAEL	rat		40000 ppm			Inhalation
dimethyl ether (115-10-6)	-	NOAEL	rat		20000 ppm		OECD 414	inhalation (vapor), embryo-fetal development

Summary of evaluation of the CMR properties

Suspected of causing cancer. May cause harm to breastfed babies.

(h) STOT-single exposure

Name	Exposure route	Туре	Species	Time	Organ	Value	Result	Method	Remark		
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation	-					May cause respiratory irritation.				
Additional information: STOT - single exposure	Additional information: STOT - single exposure: May cause respiratory irritation.										

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(i) STOT-repeated exposure

Name	Exposure route	Туре	Species	Time	Organ	Value	Result	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation (aerosol)	NOAEL	rat		Lungs, inner lining of the nose	0,2 mg/m ³	Irritating to the nose and lungs.	OECD 453	6 hours per day, 5 days per week; dose level: 0; 0,2; 1; 6 mg/m3
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation (aerosol)	LOAEL	rat		Lungs, inner lining of the nose	1 mg/m ³	Irritating to the nose and lungs.	OECD 453	6 hours per day, 5 days per week; dose level: 0; 0,2; 1; 6 mg/m3
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	inhalation	-			Respiratory tract		May cause damage to organs through prolonged or repeated exposure.		
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	-	-					repeated or prolonged exposure may cause sensitization.		
dimethyl ether (115-10-6)	Repeated dose toxicity	NOEL	rat	2 years		47 mg/L		OECD 452	inhalation
Additional information: May	cause dama	age to or	gans thro	ugh pro	olonged or re	peated	exposure.		

(j) Aspiration hazard

Name	Result	Method	Remark					
dimethyl ether (115-10-6)	Aspiration hazard: Not Classified.							
Additional information: Aspiration hazard: Not classified.								

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SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

For components

Substance (CAS Nr.)	Туре	Value	Exposure time	Species	Organism	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	LC ₅₀	> 1000 mg/L	96 h	fish	Danio rerio	OECD 203	
	EC ₅₀	> 100 mg/L	3 h	bacteria	Activated sludge	OECD 209	respiration inhibiton
	EC ₅₀	> 1000 mg/L	24 h	crustacea	Daphnia magna	OECD 202	static test
	ErC ₅₀	> 1640 mg/L	72 h	algae	Scenedesmus subspicatus	OECD 201	growth inhibition
alkanes, C14-17, chloro (85535-85-9)	EC ₅₀	0,006 mg/L	48 h	crustacea	Daphnia magna		
	LC ₅₀	≥ 1 mg/L	96 h	crustacea	Gammarus pulex		
	LC ₅₀	≥ 5000 mg/L	96 h	fish	Alburnus alburnus		
	EC ₅₀	≥ 3,2 mg/L	96 h	algae	Selenastrum capricornutum		Biomass
dimethyl ether (115-10-6)	LC ₅₀	4,1 mg/L	96 h	fish	Poecilia reticulata		Semi- Static system
	EC ₅₀	4,4 mg/L	48 h	crustacea	Daphnia magna		static test
	LC ₅₀	755,5 mg/L	48 h	Daphnia		ECOSAR	
	EC ₅₀	154,9 mg/L	96 h	algae		ECOSAR	
	EC ₁₀	> 1600 mg/L		bacteria	Pseudomonas putida		static test

12.1.2. Chronic (long-term) toxicity

For components

Substance (CAS Nr.)	Туре	Value	Exposure time	Species	Organism	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	NOEC	> 10 mg/l	21 days	crustacea	Daphnia magna	OECD 202	reproduction
	NOEC	> 1000 mg/kg	14 days	Soil macro- organisms	Eisenia fetida	OECD 207	mortality
	NOEC	> 1000 mg/kg	14 days	Terrestrial plants	Avena sativa	OECD 208	seeding growth
	NOEC	> 1000 mg/kg	14 days	Terrestrial plants	Avena sativa	OECD 208	Growth rate
	NOEC	> 1000 mg/kg	14 days	Terrestrial plants	Lactuca sativa	OECD 208	seeding growth
	NOEC	> 1000 mg/kg	14 days	Terrestrial plants	Lactuca sativa	OECD 208	Growth rate

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12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

For components

Substance (CAS Nr.)	Environment	Type / Method	Half Time	Evaluation	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016- 87-9)	water	hydrolysis	20 h	Substance rapidly hydrolyzes in water.	half-life	25°C
diphenylmethanediisocyanate, isomeres and homologues (9016- 87-9)	Air	photodegradation		After evaporation or in case of contact with air, moderately fast photochemical degradation.	SRC AOP	Concentration of OH-radicals: 500000 / cm3 ; T=25 °C

12.2.2. Biodegradation

For components

Substance (CAS Nr.)	Туре	Rate	Time	Evaluation	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	aerobic	0 %	28 days	not readily biodegradable	OECD 302 C	activated sludge
alkanes, C14-17, chloro (85535-85-9)	Biodegradation in water			Slowly degradable.		
alkanes, C14-17, chloro (85535-85-9)	Biodegradation in soil			Slowly degradable.		
dimethyl ether (115-10-6)	aerobic	5 %	28 days	not readily biodegradable	OECD 301 D	activated sludge

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

No information.

12.3.2. Bioconcentration factor (BCF)

For components

Substance (CAS Nr.)	species	Organism	Value	Duration	Evaluation	Method	Remark
diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	BCF	Cyprinus carpio	< 14	42 days	Significant accumulation in organisms is not to be expected.	OECD 305 C	0,2 mg/
alkanes, C14-17, chloro (85535-85-9)	BCF		< 2000		L/kg		
alkanes, C14-17, chloro (85535-85-9)	BMF		< 1				

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information.

12.4.2. Surface tension

No information.

12.4.3. Adsorption/Desorption

For components

Substance (CAS Nr.)	Туре	Criterion	Value	Evaluation	Method	Remark
alkanes, C14-17, chloro (85535-85-9)	Air			(H) slow volatilization		
dimethyl ether (115-10-6)	Soil			Moderate mobility in soil.		

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12.5. Results of PBT and vPvB assessment

No evaluation.

12.6. Other adverse effects

No information.

12.7. Additional information

For product

May cause long lasting harmful effects to aquatic life.

Water hazard class 2 (self-assessment): hazardous for water.

Avoid release to the environment.

For components

Substance: diphenylmethanediisocyanate, isomeres and homologues

Not expected to adsorb on soil.

Adverse effects on sewage treatment plants are not expected.

This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

Isocyanate reacts with water, forming CO2 and a solid insoluble product with a high melting point (polyurea). This reaction is promoted by surfactants (e.g. detergents) or water-soluble solvents. Polyurea is inert and non-degradabable.

Substance: polyetherpolyol

This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

Substance: alkanes, C14-17, chloro

Not soluble in water.

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Substance: dimethyl ether

Bioaccumulation is not expected.

This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Do not allow product to reach drains/sewage systems. Avoid release to the environment. Dispose of in accordance with applicable waste disposal regulation. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Product and container must be disposed of safely.

Waste codes / waste designations according to LoW

16 05 04* - gases in pressure containers (including halons) containing dangerous substances

Packaging

Pressurized container. Do not pierce or burn, even after use. Uncleaned containers should not be perforated, cut or welded. Dispose of in accordance with applicable waste disposal regulation. Deliver completely emptied containers to approved waste disposal authorities.

Waste codes / waste designations according to LoW

15 01 11* - metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers

13.1.2. Waste treatment-relevant information

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13.1.3. Sewage disposal-relevant information

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13.1.4. Other disposal recommendations

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SECTION 14. TRANSPORT INFORMATION

14.1. UN number

UN 1950

14.2. UN proper shipping name

AEROSOLS

14.3. Transport hazard class(es)

2

14.4. Packing group

Not applicable.

14.5. Environmental hazards

NO.

14.6. Special precautions for user

Limited quantities

1 L

Tunnel restriction code

(D)

IMDG EmS

F-D, S-U

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Goods may not be carried in bulk in bulk containers, containers or vehicles.

SECTION 15. REGULATORY INFORMATION

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
 - Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)
 - Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

Not applicable.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

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Abbreviations and acronyms

ATE - Acute Toxicity Estimate

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ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

CEN - European Committee for Standardisation

C&L - Classification and Labelling

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

CAS# - Chemical Abstracts Service number

CMR - Carcinogen, Mutagen, or Reproductive Toxicant

CSA - Chemical Safety Assessment

CSR - Chemical Safety Report

DMEL - Derived Minimal Effect Level

DNEL - Derived No Effect Level

DPD - Dangerous Preparations Directive 1999/45/EC

DSD - Dangerous Substances Directive 67/548/EEC

DU - Downstream User

EC - European Community

ECHA - European Chemicals Agency

EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)

EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)

EEC - European Economic Community

EINECS - European Inventory of Existing Commercial Substances

ELINCS - European List of notified Chemical Substances

EN - European Standard

EQS - Environmental Quality Standard

EU - European Union

Euphrac - European Phrase Catalogue

EWC - European Waste Catalogue (replaced by LoW - see below)

GES - Generic Exposure Scenario

GHS - Globally Harmonized System

IATA - International Air Transport Association

ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air

IMDG - International Maritime Dangerous Goods

IMSBC - International Maritime Solid Bulk Cargoes

IT - Information Technology

IUCLID - International Uniform Chemical Information Database

IUPAC - International Union for Pure Applied Chemistry

JRC - Joint Research Centre

Kow - octanol-water partition coefficient

LC₅₀ - Lethal Concentration to 50 % of a test population

LD₅₀ - Lethal Dose to 50% of a test population (Median Lethal Dose)

LE - Legal Entity

LoW - List of Wastes (see http://ec.europa.eu/environment/waste/framework/list.htm)

LR - Lead Registrant

M/I - Manufacturer / Importer

MS - Member States

MSDS - Material Safety Data Sheet

OC - Operational Conditions

OECD - Organization for Economic Co-operation and Development

OEL - Occupational Exposure Limit

OJ - Official Journal

OR - Only Representative

OSHA - European Agency for Safety and Health at work

PBT - Persistent, Bioaccumulative and Toxic substance

PEC - Predicted Effect Concentration

PNEC(s) - Predicted No Effect Concentration(s)

PPE - Personal Protection Equipment

(Q)SAR - Qualitative Structure Activity Relationship

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

RIP - REACH Implementation Project

RMM - Risk Management Measure

SCBA - Self-Contained Breathing Apparatus

SDS - Safety data sheet

SIEF - Substance Information Exchange Forum

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SME - Small and Medium sized Enterprises

STOT - Specific Target Organ Toxicity

(STOT) RE - Repeated Exposure

(STOT) SE - Single Exposure

SVHC - Substances of Very High Concern

UN - United Nations

vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data

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List of relevant H phrases

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H302 Harmful if swallowed.

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.

H362 May cause harm to breast-fed children.

H373 May cause damage to organs through prolonged or repeated exposure .

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

EUH066 Repeated exposure may cause skin dryness or cracking.

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.

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