

## Safety Data Sheet

According with Commission Regulation (EU) 2015/830 of 28 May 2015.

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

#### 1.1. Product identifier

Trade name:

**KOELNER POLYURETHANE ADHESIVE**

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

**Identified use:** in construction – Low pressure single-component polyurethane gun adhesive is designed for bonding expanded polystyrene boards in thermal insulation systems by BSO and XPS and EPS thermal insulation of foundations and mundane parts of buildings, basements, etc.

**Uses advised against:** other than those specified above.

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

Name and address: Rawlplug S.A. ul. Kwidzyńska 6, 51-416 Wrocław

Telephone number: +48 (0) 71 32 60 100

Fax number: +48 (0) 71 37 26 111

E-mail address of competent person responsible for the SDS:

+ 48 32 324 00 50

+ 48 32 324 00 17

mail: [chb\\_karty@rytm-l.pl](mailto:chb_karty@rytm-l.pl)

**1.4. Emergency telephone number :** + 48 32 324 00 50 Mon-Fri at 8-16  
+ 48 32 324 00 17 Mon-Fri at 8-16  
112

### Section 2: Hazards identification

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

**The mixture is classified as hazardous**

##### 2.1.1 Classification according to REGULATION (EC) No 1272/2008

Class	Category	Hazard statements (H statements):
Flam. Aerosol	1	H222: Extremely flammable aerosol.
Flam. Aerosol	1	H229: Pressurized container: may burst if heated
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. Inhalative	4	H332: Harmful if inhaled.
Sens. Resp.	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 Inhalative	2	H373: May cause damage to organs through prolonged or repeated exposure by inhalation.

## 2.2. Label elements

GHS pictograms:



DANGER

Contains isocyanates, C14-C17 Chloroalkanes, Tris (2-chloro-1-methylethyl) phosphate.

### Hazard statements (H statements):

H222: Extremely flammable aerosol.

H229: Pressurized container: may burst if heated

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 by inhalation.

H410: Very toxic to aquatic life with long lasting effects.

### Precautionary statements (P statements):

P102: Keep out of reach of children.

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

P251: Do not pierce or burn, even after use.

P260: Do not breathe gas/vapours.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

P410+P412: Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.

### Warning information:

Contains isocyanates. May produce an allergic reaction. Read the manufacturer's instructions. If medical advice is needed, have product container or label at hand. Contains gas under pressure; may explode if heated. Do not spray on an open flame or other ignition source. Dispose of contents/container accordance with national regulation on waste management. Repeated exposure may cause skin dryness or cracking. 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. Wear protective gloves according to EN 374, protective clothing according to EN 13034, eye protection according to EN 167, face protection according to EN 166.

## 2.3. Other hazards

No information on the fulfillment of the criteria for PBT and vPvB in accordance with Annex XIII

## Section 3: Composition/information on ingredients

### 3.1. Substances

### 3.2. Mixtures

<b>Components REACH Registration Numbers</b>	<b>Content</b>	<b>WE No.</b>	<b>CAS Mo.</b>	<b>Classification 1272/2008/EC</b>
Diphenylmethane diisocyanate, Isomers and homologues	38 -55%	-	9016-87-9	Carc. 2 H351 Acute Tox. 4 H332 STOT RE 2 H373 Eye Irrit. 2 H319 STOT SE 3 H335 Skin Irrit. 2 H315 Resp. Sens. 1 H334 Skin Sens. 1 H317
Alcanes, C14-17 chloro 01-2119519269-33-xxxx	< 10%	287-477-0	85535-85-9	Lact. H362 Aquatic Acute1 H400 Aquatic Chronic1 H410 EUH 066
Tris (2-chloro-1-methylethyl) phosphate 01-2119486772-26-xxxx	< 10%	237-158-7	13674-84-5	Acute Tox. 4 H302
Propane 01-2119486944-21-xxxx Butane 01-2119474691-32-xxxx Isobutene 01-2119485395-27-xxxx 1) Mixture liquefied under pressure	< 10%	200-827-9 203-448-7 200-857-2	74-98-6 106-97-8 75-28-5	Flam. Gas 1 H220 Press. Gas
Dimethyl Ether 01-2119472128-37-xxxx	< 12%	204-065-8	115-10-6	

Explanations of R, H in section 16

<sup>1)</sup> The mixture with isobutane contains < 0.1% by weight buta-1,3-dien and according to the classification principles is neither carcinogenic nor mutagenic.

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation:** Remove from exposure to fresh air immediately. If respiratory problems occur, get medical aid.

**Skin contact:** Remove contaminated clothing. Apply small amount of solvent (e.g. cloth saturated with acetone), wash with water and soap and large amounts of water.

**Eye contact:** Flush eyes with plenty of water with eyes wide open for 15 minutes. Get medical aid.

**Ingestion:** Do NOT induce vomiting. Rinse mouth with water. Get medical help immediately.

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

The product irritates the respiratory system and is a potential trigger allergic respiratory and skin. The first symptoms are acute irritation and bronchoconstriction. Long-term medical treatment may be required depending on the degree of cyanide.

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

As a general rule, and in all cases of doubt or when symptoms persist, always seek medical attention.

### Section 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing:** Carbon dioxide (CO<sub>2</sub>), dry chemical, foam extinguishing simple, water spray depending on the environment. In case of fire there is a danger of increased ambient pressure and bursting the containers formulation. Containers exposed to fire cool with water spray from a safe distance. media:

Unsuitable extinguishing media: Very strong stream of water.

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

**Special exposure hazards arising from the mixture itself, combustion products, resulting gases:**

Extremely flammable, in case of fire can emit dangerous gases: nitrogen oxides, carbon monoxide, isocyanate, can produce trace amounts of cyanide. Vapours produced are heavier than air and can stay just over the surface of the ground and move via ventilation ducts. Remote source of ignition can cause a risk of fire.

#### 5.3. Advice for firefighters

**Special protective equipment for fire fighters:**

Use special protective clothing and wear oxygen respirators. The product in its final form of hardened foam can be a source of burns when there is a sufficient amount of oxygen and the air is warm enough.

### Section 6: Accidental release measures

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

**Personal precautions:**

Do not inhale vapours/aerosols. Use protective clothing, face protection and gloves. Do not smoke and avoid sparks. Provide an air supply to enclosed rooms.

#### 6.2. Environmental precautions

**Environmental precautions:**

Do not let enter the drain. Avoid emptying to sewage, water or soil. Empty cans should be disposed of as pressurized containers, whereas the foam should be disposed of as plastic waste.

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

**Methods for cleaning up:**

Any leakages should be removed by mechanical means, use liquid absorbent to remove any remains of the product (e.g. wood flour, diatomaceous earth, sand). Collect into a waste container. Released material will polymerise when exposed to humidity. Do not close the containers (material emits CO<sub>2</sub>).

Hardened foam should be removed by mechanical means, surfaces should be polished.

#### 6.4. Reference to other sections

Waste handling of the product - see section 13 of SDS

Personal protective equipment - see section 8 of SDS

### Section 7: Handling and storage

#### 7.1. Precautions for safe handling

Handle as other extremely flammable materials; provide suitable room ventilation. Do not spray on a naked flame or any incandescent material. Protect against sources of ignition – no smoking. Do not mix with other chemicals.

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

Store in a dry and well-ventilated place in an upright position in originally closed containers. Storage temperature from +5 to +35°C (room temperature recommended). Store away from sources of ignition, oxidants, rubber, plastics, light metals and foodstuffs. Protect against freezing. Pressurized containers: Protect from sunlight and heating above temperature +50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children.

#### 7.3. Specific end use(s)

No information about the applications other than those listed in subsection 1.2.

### Section 8: Exposure controls/personal protection

#### 8.1. Control parameters

Substance	NDS	NDSch
Diphenylmethane diisocyanate	0,03mg/m <sup>3</sup>	0,09mg/m <sup>3</sup>
4,4'-Diphenylmethane diisocyanate	0,03mg/m <sup>3</sup>	0,09mg/m <sup>3</sup>
Diphenylmethane-2,4'-diisocyanate	0,03mg/m <sup>3</sup>	0,09mg/m <sup>3</sup>
Methylenedi-o-phenylene diisocyanate	0,03mg/m <sup>3</sup>	0,09mg/m <sup>3</sup>
Butane	1900 mg/m <sup>3</sup>	3000 mg/m <sup>3</sup>
Propane	1800 mg/m <sup>3</sup>	Not specified
Isobutane	1900 mg/m <sup>3</sup>	Not specified
Dimethyl ether	1000 mg/m <sup>3</sup>	Not specified

Mixture contains components harmful to health in the working environment (according to regulations concerning the highest permissible concentration depending on time of exposure during a work shift, stipulated in the Journal of Laws No. 217, Item 1833 of 29 November 2002- with later modification) .

Harmful contamination of air does not occur or shall develop very slowly as the result of evaporation at a temperature of +20°C; spraying intensifies this process.

#### DN(M)ELs

Substance	Route of exposure	Value	Groupe	Effect
Dimethyl ether	inhalation	1894 mg/m <sup>3</sup>	employee	chronic, systemic
	inhalation	471 mg/m <sup>3</sup>	general population	chronic, systemic
Alcanes, C14-17 chloro	skin	47,9 mg/kg	employee	long-term exposure
	inhalation	1,6 mg/m <sup>3</sup>	employee	long-term exposure
	skin	28,75 mg/kg	general population	long-term exposure
	inhalation	2,0 mg/m <sup>3</sup>	general population	long-term exposure

	swallowing	0,58 mg/kg	general population	long-term exposure
--	------------	------------	--------------------	--------------------

## PNECs

Substance	Destiny	Value
Dimethyl ether	Freshwater	0,155 mg/l
	Sea water	0,016 mg/l
	periodic release	1,549 mg/l
	wastewater treatment plant	160 mg/l
	freshwater sediment	0,681 mg/l
	Sea water sediment	0,069 mg/l
	soil	0,045 mg/l
Alcanes, C14-17 chloro	Freshwater	0,001 mg/l
	Sea water	0,0002 mg/l
	Wastewater treatment plant - microorganisms	80 mg/l
	freshwater sediment	5 mg/kg
	Sea water sediment	1 mg/kg
	soil	10,5 mg/kg

## 8.2. Exposure controls

### Personal protective equipment:

**Respiratory protection:** protection necessary in poorly ventilated areas, in the case of prolonged use wear a mask with compressed air.

**Hand protection:** Use gloves of PVC or rubber (type gloves to protect against chemicals should chosen depending on the concentration and quantity of the hazardous substance. For special applications, we recommend contacting the manufacturer of protective gloves in order to explain the resistance of the aforementioned gloves for chemicals.)

**Eye protection:** It is advisable to wear safety goggles (tight goggles) or face protection.

**Skin Protection:** Wear suitable protective clothing (preferably anti-static).

**Digestive tract Protection:** During work do not eat, drink or smoke. Wash hands each time after handling chemicals.

**Environmental exposure controls:** Avoid release to the environment, not empty into drains. Any emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental law.

### Environmental exposure controls:

The employer shall ensure that the applicable personal protective equipment, clothing and shoes have protective properties and shall assure their proper cleaning, maintenance, repair and decontamination. The recommended initial and periodic examination of workers should be carried out in accordance with the Regulation of the Minister of Health and Social Welfare of 30.05.1996 on medical examinations of employees, scope of preventive health care workers and medical certificates issued for the purposes provided for in the Labour Code (Journal of Laws . No. 69 of 1996, item. 332, d. 04.05.2001, Journal. Laws No. 37 of 2001, item. 451).

## Section 9: Physical and chemical properties

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

**Appearance** dark-brown liquid in a pressurised container, aerosol  
**Odour** distinctive

<b>Odour threshold</b>	not specified
<b>pH</b>	slightly alkaline
<b>The temperature of the melting / freezing</b>	not specified
<b>Boiling point</b>	-42 °C do 0 °C ( for gas mixture propane / butane / isobutane ) > 300 °C (for 4,4'-methylenediphenyl diisocyanate)
<b>Flash point</b>	-80 °C ( for gas mixture propane / butane / isobutane ) >200 °C ( for 4,4'-methylenediphenyl diisocyanate)
<b>Evaporation rate</b>	not specified
<b>Flammability (liquid/gas)</b>	extremely flammable aerosol
<b>Explosiveness limits</b>	high: 1.5% vol. (for propane / butane , isobutane) low: 10.9% vol. (for propane / butane , isobutane)
<b>Vapour pressure (20 °C)</b>	1200 – 7500 hPa (for gas mixture propane/butane/isobutane) 6 hPa (for 4,4'-methylenediphenyl diisocyanate)
<b>Vapour density</b>	not specified
<b>Relative density</b>	around 1,2 g/cm <sup>3</sup> (for water 1,0 g/cm <sup>3</sup> )
<b>Water solubility</b>	non soluble, reacts slowly with water (the process of foam hardening)
<b>Solubility in organic solvents</b>	soluble in acetone (non cross-linked acetone)
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>The temperature decomposition</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive properties</b>	Included in the preparation gases may form explosive mixtures with air
<b>Oxidizing properties</b>	No data, avoid mixing the contents of the can with other chemical

## 9.2. Other information:

Not applicable

## Section 10: Stability and reactivity

**10.1. Reactivity:** Product reactive.

**10.2. Chemical stability:** The product is stable under normal storage conditions.

**10.3. Possibility of hazardous reactions:** Reacts with substances containing active hydrogen, (amines, alcohols), reacts with water. Avoid contact with acids and alkalis.

**10.4. Conditions to avoid:** Avoid temperatures below +5 ° C and above +35 ° C; protect against possible mechanical damage; Avoid heat, flames, sparks and moisture.

**10.5. Incompatible materials:** Avoid contact with other chemicals such as strong oxidizing agents, strong acids and bases. Strongly reacts with water and free of substances containing active hydrogen.

### 10.6. Hazardous decomposition products

With the right handling and storage is not hazardous decomposition products.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

**The product contains isocyanates**, refer to the instructions provided by the manufacturer.

The product is harmful by inhalation. May cause sensitization by inhalation and skin contact. Limited evidence of a carcinogenic effect. Harmful by inhalation; danger of serious damage to health by prolonged exposure.

People who are hypersensitive airways (such as asthma, chronic bronchitis) should avoid contact with the product. In case there is a risk of overexposure concentration dependent irritation of eyes, nose, throat and respiratory tract. Complaints and symptoms (difficulty in breathing, coughing, asthma) may be delayed. In patients hypersensitive reactions can be caused by very low concentrations of isocyanate, also below the MAK values (maximum permissible concentration in the air of the working environment). In the case of prolonged contact with the skin may occur tanning effects and irritation.

## Acute toxicity

Substance	Type dose (route of exposure)	Test species	Value
Diisocyanate, isomers and homologues	swallowing	rat	
	inhalation	rat	0,31 mg/l
	skin	rabbit	9,4 mg/kg

### Primary irritations of the skin:

- diisocyanate, diisocyanate, isomers and homologues  
Species: rabbit  
The result: a mild irritant  
Method: Directive on the OECD test 401

### The main irritation of the mucous membrane:

- diisocyanate, diisocyanate, isomers and homologues  
Species: rabbit  
The result: a mild irritant  
Method: Directive on the OECD test 401

### Sensitization:

- diisocyanate, diisocyanate, isomers and homologues  
Skin sensitization according to Magnusson / Kligmann (maximizing test):  
Species: guinea pig  
Result: negative  
Classification: Did not cause skin irritation.  
Method: Directive on the OECD test 401

### Skin irritation (local lymph node assay (LLNA)):

- Species: mouse  
Result: Positive  
Classification: OECD Test Guideline 429 on the Test

Sensitizes the respiratory route

Species: rat

Result: positive

Classification: May cause sensitization by inhalation

### Subacute, subchronic and prolonged:

- diisocyanate, diisocyanate, isomers and homologues  
NOAEL: 0.2 mg/m<sup>3</sup>  
LOAEL: 1 mg/m<sup>3</sup>  
Method of administration of the dose: Inhaled  
Species: rat  
The dose level: 0-0,2-1-6 mg/m<sup>3</sup>  
Exposure Time: 2 and  
Treatment time: 6h a day, 5 days a week  
Exposed organ: lungs, mucous membrane of the nose  
Test substance: Aerosol  
Method: Directive on test 43 OECD  
Results: Irritating to the nostrils and lungs

### Carcinogenicity:



- diisocyanate, diisocyanate, isomers and homologues

Species: rat

Method of administration of the dose: Inhaled

The dose level: 0-0,2-1 - 6 mg/m<sup>3</sup>

Test substance: Aerosol

Exposure Time: 2 and

Treatment time: 6h a day, 5 days a week

Method: Directive on test 43 OECD

The presence of tumors in the group with the largest dose

### Toxicity to reproduction / fertility;

- 3. diisocyanate, diisocyanate, isomers and homologues

No data

### Reproductive Toxicity / Teratogenicity:

- diisocyanate, diisocyanate, isomers and homologues

NOAEL (teratogenicity): 12 mg/m<sup>3</sup>

NOAEL (maternal): 4 mg/m<sup>3</sup>

NOAEL (developmental toxicity): 4 mg/m<sup>3</sup>

Species: rat

Method of administration of the dose: Inhaled

Dose level: 0-1 - 4 - 12 mg/m<sup>3</sup>

Treatment time: 6h a day (exposure duration: 10 days (day 1 after intercourse sex))

The frequency of testing: 20 d

Test substance: Aerosol

Method: OECD Test Guideline 414 on the Test

NOAEL (developmental toxicity): 4 mg/m<sup>3</sup>

Did not show teratogenic effects in animal experiments.

### Genotoxicity in vitro:

- diisocyanate, diisocyanate, isomers and homologues

Type of test: Salmonella / mikrosomalny test (Ames test)

System Test: Salmonella typhimurium

Metabolic Activation: with / without

Result: negative

Method: OECD Test Guideline 471 on the Test

### Genotoxicity in vivo:

- diisocyanate, diisocyanate, isomers and homologues

Pumpkin Type: micronucleus test

Species: rat

Method of Application Route: Inhalation (exposure time: 3x1h/dziennie for 3 weeks)

Result: negative

Method: OECD Test Guideline 474 on the Test

### Rating STOT single exposure:

- diisocyanate, diisocyanate, isomers and homologues

Route of exposure: Inhaled

Target Organs: Respiratory system

May cause irritation of the respiratory tract

### Rating STOT single exposure:

- diisocyanate, diisocyanate, isomers and homologues

Route of exposure: Inhaled

Target Organs: Respiratory system

May cause irritation of the respiratory tract

### Rating STOT repeated exposure:

- diisocyanate, diisocyanate, isomers and homologues

Route of exposure: Inhaled

Target Organs: Respiratory system

May cause damage to organs through prolonged or repeated exposure

**Aspiration toxicity:**

- diisocyanate, diisocyanate, isomers and homologues

Based on the available data. The classification criteria are not met.

**CMR Rating:**

- diisocyanate, diisocyanate, isomers and homologues

Carcinogenicity: Suspected of causing cancer if inhaled (Carcinogenesis, Category 2).

Mutagenicity: Tests in vitro and vivo showed no mutagenic. Based on available data, the classification criteria are not met.

Teratogenicity: Did not show teratogenic effects in animal experiments. In based on available data, the classification criteria are not met.

Toxicity to reproduction / fertility: Based on available data, the classification criteria are not met.

**Toxicological evaluation:**

- diisocyanate, diisocyanate, isomers and homologues

Acute effects: Harmful if inhaled. The product causes irritation eyes, skin and mucous membranes.

Sensitization: May cause sensitization by inhalation and contact with the skin.

**Further information:**

- diisocyanate, diisocyanate, isomers and homologues

Special properties / effects: If there is a risk of overexposure concentration dependent irritation of eyes, nose, throat and respiratory tract. Ailments and development hypersensitivity reactions (difficulty in breathing, coughing, asthma) may be delayed. Hypersensitive people, reactions can be triggered by a very low concentration isocyanate, and also below the MAK value (maximum permissible concentration in air work environment). In the case of prolonged contact with the skin may occur effects tanning and irritation.

**Section 12: Ecological information**

**12.1. Toxicity**

Substance	Dose / time of exposure / method	Species	Results
isocyanate, isomers and homologues	Exposure time: 96 h Method: Directive Committee. OECD 203 test	Fish: Species: Danio rerio (zebrafish)	1,0 mg/ml
	Exposure time: 24 d Method: OECD Test Guideline 202 on trial	Daphnia: Species: Daphnia magna	1,0 mg/ml
	Exposure time: 72 h Method: OECD Test Guideline 202 on trial	Algae: Species: Scenedesmus subspicatus (green algae)	1.640 mg/l
	Exposure time: 3 h Method: OECD Test Guideline 209 on trial	Bacteria: Genre: Sludge	1,0 mg/ml
	Exposure time: 14 d Method: OECD Test Guideline 208 on trial	Oats: Species: Avena sativa	1.0 mg/kg
	Exposure time: 14 d Method: OECD Test Guideline 208 on trial	Lettuce: Genre: Lactuca sativa	1.0 mg/kg
Alcanec C14-17 chloro	Exposure time: 48h	Daphnia: Species: Daphnia magna	0,006 mg/l
	Exposure time: 96 h	Shellfish: Genre: Gammarus pulex	1,0 mg/ml

	Exposure time: 96 h	Fish: Species: Alburnus alburnus	3,2 mg/ml
	Exposure time: 96 h	Algae: Species: Selenastrum capricornutum	3,2 mg/ml

## 12.2. Persistence and degradability

### Biodegradation:

- diisocyanate, diisocyanate, isomers and homologues

Type of test: oxygen (s)

Vaccine: Activated sludge

Biodegradation: 0%, 28 d, ie not naturally decompose

Method: OECD Test Guideline 302 C on trial

According to the results of the biodegradability of the product is not readily biodegradable

### Stability in water:

- diisocyanate, diisocyanate, isomers and homologues

Type of test: Hydrolysis

Half-life of 20 h at 25 ° C

Substance rapidly hydrolyses in water.

### Photodegradation:

- diisocyanate, diisocyanate, isomers and homologues

Type of test: Phototransformation in air

Temperature: 25 ° C

Sensitizer: OH - radicals

Concentration of sensitizer: 500,000 1/cm<sup>3</sup>

Round. Half. Ent. - Fotol. Lap.: 0.92 d

Method: SRC - AOP (calculations)

After evaporation and exposed to air, the product will moderate degraded by photochemical processes.

## 12.3. Bioaccumulative potential

### Bioaccumulation:

- diisocyanate, diisocyanate, isomers and homologues

Bioconcentration factor (BCF): <14

Species: Cyprinus carpio (Carp)

Exposure time: 42 d

Concentration: 0.2 mg / l

Method: OECD Test Guideline 305 C on trial

It is expected accumulation in aquatic organisms.

Substance rapidly hydrolyses in water.

Research hydrolysis products.

## 12.4. Mobility in soil

### Adsorption / desorption:

- diisocyanate, diisocyanate, isomers and homologues

Failure of data. On the basis of Annex VIII of the REACH test is not needed when decomposition is rapid. MDI rapid hydrolysis in aqueous solutions. Despite the fact that MDI has drainage properties and sparingly soluble in water, so the reaction

Heterogeneous water in the ground is less fast. The product of the reaction is most insoluble polycarbonate. During the production of formation of insoluble PMDI polycarbonates would cause a problem of abrasion, stop valves and tubes. From this because it is not allowed derivation of PMDI to sewage. due

that production takes place in a closed system, there is little probability of emission substances in sediments. With the help of the program EUSES is defined in number of the PEC - based on emission measurements performed by the manufacturers and processors of PMDI in polyurethanes including the producers. The correct data PEC / PNEC ratio would be too low, less than 1 Due to the scientific arguments and expositions, withdrawal from long-term

### 12.5. Results of PBT and vPvB assessment

This mixture does not meet the criteria for classification of PBT and vPvB.

### 12.6. Other adverse effects

The isocyanate reacts with water to form in the boundary layer and the solid CO<sub>2</sub>, insoluble product with high melting point (polyurea). This reaction is strong intensifying in the presence of surface-active agents (e.g., liquid soaps) or water-soluble solvents. The experience of the prior art that the polyurea is not reactive and does not decompose. Does not expect the impact of MDI on global warming, reducing the thickness of the layer ozonosphere in the stratosphere or in the accumulation of ozone in the troposphere.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Product:** Do not dispose of directly to the environment (to the drain, sewage, water, soil) dispose of to an authorized waste disposal facility. The product in its final form should be disposed of as plastic waste.

**Containers:** Full containers should be delivered to a waste disposal facility. Empty cans should be destroyed the same way as pressurized containers.

**Waste code:** Container content:  
**16 05 04** – gases in containers (including halons) containing hazardous substances  
**08 04 09\*** - glue and sealant wastes containing organic thinners or other hazardous substances

**Packaging waste:** **15 01 10\*** - packaging containing residues of hazardous substances or contaminated  
**15 01 01** – paper and cardboard packaging

Waste disposal should be in accordance with local and national legislation.

## Section 14: Transport information

Transport Information	14.1. Number UN	14.2. Proper shipping name UN	14.3. Transport hazard classes	14.4. Paking group	14.5. Environmental hazards
Land transport ADR	1950	Aerosols, flammable (contains diisocyanate, diisocyanate, isomers and homologues propane, butane, isobutane)	2 Label 2.1	not applicable	not
Maritime transport IMDG	1950	Aerosols, flammable (contains diisocyanate, diisocyanate, isomers and homologues propane, butane, isobutane)	2 Label 2.1	not applicable	not
Inland waterways transport ADN/ADNR	1950	Aerosols, flammable (contains diisocyanate, diisocyanate, isomers and homologues	2 Label 2.1.	not applicable	not

14.6. **Special precautions:** Courier should not be thrown or subjected to impact.

14.7. **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**

Not applicable.

## Section 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation for the substance or mixture

1. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 on the registration, evaluation, authorization and restriction of chemicals (REACH) and the creation of a European Chemicals Agency, amending Directive 1999/45 / EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94, as well as Council Directive 76/769 / EEC and Commission Directives 91/155 / EEC, 93/67 / EEC, 93/105 / EC and 2000/21 / EC
2. Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the registration, evaluation, authorization and restriction of chemicals (REACH)
3. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on the classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548 / EEC and 1999/45 / EC and amending Regulation (EC) No 1907/2006 as amended.
4. Act of 20 March 2015 amending the act on chemical substances and mixtures thereof (Journal of Laws of 2015, item 675, as amended).
5. Announcement of the Speaker of the Sejm of the Republic of Poland of June 6, 2019 regarding the publication of a uniform text of the Act on chemical substances and their mixtures (Journal of Laws of 2019, item 1225)
6. The Regulation of the Minister of Family, Labor and Social Policy of 12 June 2018 on the highest allowable concentrations and intensities of factors harmful to health in the work environment
7. Regulation of the Minister of Labor and Social Policy of 4 August 2011 amending the regulation on general provisions on occupational health and safety
8. Announcement of the Speaker of the Sejm of the Republic of Poland of February 1, 2019 regarding the publication of a uniform text of the Act on the carriage of dangerous goods (Journal of Laws of 2019, item 382).
9. Government Declaration of 18 February 2019 on the entry into force of amendments to Annexes A and B to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), done at Geneva on 30 September 1957 (Journal of Laws 2019 item 769).
10. Act of 14 December 2012 on waste with subsequent amendments (Journal of Laws 2013 item 21).
11. Act of 13 June 2013 on the management of packaging and packaging waste as amended (Journal of Laws of 2013, item 888).
12. Regulation of the Minister of the Climate of January 2, 2020 regarding the waste catalog (Journal of Laws of 2020, item 10)
13. The Regulation of the Minister of Entrepreneurship and Technology of 10 May 2019 repealing the Regulation on the essential requirements for personal protective equipment (Journal of Laws 2019 item 966).
14. Annex XVII. Restrictions on the production, placing on the market and use of certain hazardous substances, preparations and articles - Regulation No 1907/2006 REACH.
15. Regulation of the Minister of Health of February 2, 2011 regarding tests and measurements of factors harmful to health in the work environment (Journal of Laws 2011 No. 33 item 166)
16. Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98 / EC on waste.
17. Directive (EU) 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 94/62 / EC on packaging and packaging waste.
18. Act of 20 July 2017 - Water Law (Journal of Laws 2017 item 1566).

## 15.2. Chemical safety assessment

An evaluation of chemical safety for ingredients: diethyl ether and and C14-C17 Chloroalkanes, tris (2-chloro-1-methylethyl) phosphate.

### Section 16: Other information

#### Explanations of H, abbreviations, symbols and acronyms used in the text:

H220: Extremum flammable gas.  
H222: Extremely flammable aerosol.  
H229: Pressurized container: may burst if heated  
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 by inhalation.  
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.  
P102: Keep out of reach of children.  
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P251: Do not pierce or burn, even after use.  
P260: Do not breathe gas/vapours.  
P271: Use only outdoors or in a well-ventilated area.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352: IF ON SKIN: Wash with plenty of water.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P410+P412: Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.

Changes compared to the previous version:

- update from 03/02/2020 - changes were made in section 1,3,15

The information contained in the Safety Data Sheet is based on current state of knowledge and applies to product with its identified use. The information is intended to aid the user in controlling the handling risks and not to guarantee product quality. If conditions of product use are not under manufacturer control, responsibility for safe use falls to the user. Employer is obliged to inform all employees working with the product, about possible hazards and personal protection specified in Safety Data Sheet.

Classification of mixtures made a calculation method based on the content of hazardous components.