

## Safety data sheet

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 PRODUCT IDENTIFIER

Product name

PARKETOLIT PR52

UFI:

3HK6-7AWS-YN1W-MT7J



<https://my.chemius.net/p/eJJG7Y/en/pd/en>

#### 1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Relevant identified uses

One component polyurethane coating without solvents

Uses advised against

No information.

#### 1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier

MITOL, tovarna lepil, d.o.o., Sežana  
Partizanska c. 78  
6210 Sežana, Slovenia  
+386 5 73 12 300 (8:00-16:00)  
lilijana.kocjan@mitol.si

#### 1.4 EMERGENCY TELEPHONE NUMBER

Emergency

112

Supplier

+386 5 73 12 300 (8:00-16:00)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

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

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.  
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 [CLP]



**Signal word: DANGER**

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.  
P102 Keep out of reach of children.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P501 Dispose of contents/container in accordance with national regulation.

Contains:



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isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))  
polymeric MDI  
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate

### Special provisions

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.

As from 24 August 2023 adequate training is required before industrial or professional use.

### 2.3 OTHER HAZARDS

#### PBT/vPvB

No information.

#### Endocrine disrupting properties

No information.

#### Additional information

Persons who have problems with sensitivity of the airways (asthma, chronic bronchitis), should avoid contact with the product.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 SUBSTANCES

For mixtures see 3.2.

### 3.2 MIXTURES

Name	CAS EC Index Reach	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	Notes for substances
propylene carbonate	108-32-7 203-572-1 607-194-00-1	30-70	Eye Irrit. 2; H319	/	/
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))	53862-89-8 - -	10-45	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	/	/
polymeric MDI	9016-87-9 - -	<25	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	/	/

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Name	CAS EC Index Reach	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	Notes for substances
<b>'4,4'-methylenediphenyl diisocyanate</b>	101-68-8 202-966-0 615-005-00-9	<10	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	Skin Irrit. 2; H315; C ≥ 5% Eye Irrit. 2; H319; C ≥ 5% Resp. Sens. 1; H334; C ≥ 0.1% STOT SE 3; H335; C ≥ 5%	C
<b>reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate</b>	- 905-806-4 - 01-2119457015-45	<2,5	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	/	/

### Notes for substances

<b>C</b>	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.
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## SECTION 4: FIRST AID MEASURES

### 4.1 DESCRIPTION OF FIRST AID MEASURES

#### General notes

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. Symptoms of poisoning may even occur after several hours; therefore medical observation is required at least 48 hours after the event.

#### Following inhalation

Remove patient to fresh air - move out of dangerous area. If victim is not breathing give artificial respiration. In case of difficulty breathing, give oxygen to the victim. If symptoms develop and persist, seek medical attention.

#### Following skin contact

Immediately remove contaminated clothing. Wash affected skin areas immediately with plenty of water and soap. Rinse with a polyglycol-based skin cleanser or corn oil. Wash contaminated clothes and shoes before reuse. If symptoms develop and persist, seek medical attention.

#### Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. After 5 minutes of rinsing, remove contact lenses, if present, and continue rinsing. If irritation persists, seek professional medical attention.

#### Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Immediately consult a doctor. Show the physician the safety data sheet or label.

### 4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

#### Following inhalation

Harmful. Coughing, sneezing, nasal discharge, labored breathing. Intoxication, vertigo, headache, nausea. Prolonged inhalation of vapours can cause lung injury. Can cause sensitization. May cause shortness of breath and asthmatic problems.

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## Following skin contact

Itching, redness, pain. May cause sensitisation by skin contact (symptoms: itching, redness, rashes).

## Following eye contact

Redness, tearing, pain.

## Following ingestion

May cause nausea/vomiting and diarrhea. May cause abdominal discomfort. Irritates mucous membranes in the mouth, throat, esophagus and in gastrointestinal area.

## 4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No information.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA

#### Suitable extinguishing media

Foam.  
Carbon dioxide (CO<sub>2</sub>).  
Fire extinguishing powder.

#### Unsuitable extinguishing media

Full water jet. Water.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

#### Hazardous combustion products

In case of heating harmful vapours/gases can be generated. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>).  
Nitrogen oxides (NO<sub>x</sub>).

### 5.3 ADVICE FOR FIREFIGHTERS

#### Protective actions

In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray. If possible remove containers from endangered area. The reaction with water produces CO<sub>2</sub>, which can cause a dangerous increase in pressure, if contaminated containers are closed again. Closed containers may explode if they are overheated.

#### Special protective equipment for fire-fighters

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

Contaminated firefighting water 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

#### For non-emergency personnel

##### Protective equipment

Use personal protective equipment (Section 8).

##### Precautionary measures

Ensure adequate ventilation.

##### Emergency procedures

Remove all unauthorized persons upwind to a safe distance. Do not touch or walk through spilled material. Avoid contact with skin and eyes. Do not breathe vapour or mist. Prevent access to unprotected personnel. Prevent access to unauthorised personnel.

#### 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

#### For containment

Stem the spill if this does not pose risks.

#### For cleaning up

Stop leak if without risk. Neutralize the product (with decontaminative solution). Cover the spillage with decontamination solution for isocyanates (90% water, 8% ammonia, 2% detergent) and leave 10 minutes to react or pour with water and leave more than 30 minutes to react. The contaminated area should be cleaned with the following solution: 5% -10% sodium carbonate and 0,2-2% of liquid soap in water. Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor. Collect in a suitable container and dispose in accordance with the

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methods under Section 13. Do not absorb spillage with sawdust or other combustible material. In case of major contamination, the contaminated soil layer should be removed. Test for isocyanate vapours before allowing personnel into the area.

## OTHER INFORMATION

No information.

## **6.4 REFERENCE TO OTHER SECTIONS**

See also sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1 PRECAUTIONS FOR SAFE HANDLING**

#### Protective measures

#### Measures to prevent fire

Ensure adequate ventilation. Keep away from sources of ignition - no smoking.

#### Measures to prevent aerosol and dust generation

No information.

#### Measures to protect the environment

No information.

#### Other measures

No information.

#### Advice on general occupational hygiene

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 and eyes. Do not breathe vapours/mist. Remove contaminated clothes and wash them before reuse. People with sensitive skin should not come into contact with the product. Before entering the dining room it is necessary to replace contaminated clothing.

### **7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES**

#### Technical measures and storage conditions

Keep in cool and well ventilated area. Keep away from food, drink and animal feeding stuffs. Handle and open the container carefully. Keep container closed. Keep in properly labelled containers. Keep away from moisture and water. Protect from open fire, heat and direct sunlight.

#### Packaging materials

Store only in original container.

#### Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking.

#### Storage class

No information.

#### Further information on storage conditions

No information.

### **7.3 SPECIFIC END USE(S)**

#### Recommendations

Do not use compressed air during filling, emptying or handling.

#### Industrial sector specific solutions

No information.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 CONTROL PARAMETERS**

#### Occupational Exposure limit values

No information.

#### 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 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values. BS EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

#### DNEL/DMEL values

#### For product

No information.

#### For components

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Name	Type	Exposure route	exp. frequency	Remark	value
'4,4'-methylenediphenyl diisocyanate	Worker	dermal	short term systemic effects	24 h	50 mg/kg
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	short term systemic effects	/	0.1 mg/m <sup>3</sup>
'4,4'-methylenediphenyl diisocyanate	Worker	dermal	short term systemic effects	/	28.7 mg/cm <sup>2</sup>
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	short term systemic effects	/	0.1 mg/m <sup>3</sup>
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	long term systemic effects	/	0.05 mg/m <sup>3</sup>
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	long term systemic effects	/	0.05 mg/m <sup>3</sup>
'4,4'-methylenediphenyl diisocyanate	Consumer	dermal	short term systemic effects	mg/kg per day	25 mg/kg
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	short term systemic effects	/	0.05 mg/m <sup>3</sup>
'4,4'-methylenediphenyl diisocyanate	Consumer	oral	short term systemic effects	mg/kg per day	20 mg/kg
'4,4'-methylenediphenyl diisocyanate	Consumer	dermal	short term local effects	/	17.2 mg/cm <sup>2</sup>
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	short term local effects	/	0.05 mg/m <sup>3</sup>
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	long term systemic effects	systemic	0.025 mg/m <sup>3</sup>
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	long term local effects	/	0.025 mg/m <sup>3</sup>

### PNEC values

#### For product

No information.

#### For components

Name	Exposure route	Remark	value
'4,4'-methylenediphenyl diisocyanate	fresh water	/	1 mg/L
'4,4'-methylenediphenyl diisocyanate	marine water	/	0.1 mg/L
'4,4'-methylenediphenyl diisocyanate	soil	/	1 mg/kg

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Name	Exposure route	Remark	value
'4,4'-methylenediphenyl diisocyanate	water, intermittent release	/	10 mg/L
'4,4'-methylenediphenyl diisocyanate	water treatment plant	/	1 mg/L

### 8.2 EXPOSURE CONTROLS

#### Appropriate engineering control

#### Substance/mixture related measures to prevent exposure during identified uses

Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene practices – wash hands at breaks and when done working with material. Avoid contact with eyes and skin. Do not breathe vapours/aerosols. Do not eat, drink or smoke while working.

#### Structural measures to prevent exposure

No information.

#### 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.

#### Personal protective equipment

#### Eye and face protection

Safety glasses with side protection (BS EN ISO 16321-1:2022).

#### Hand protection

Protective gloves (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. 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.

#### Appropriate materials

#### Skin protection

Cotton protective clothing and shoes that cover the entire foot (BS EN ISO 20345:2022).

#### Respiratory protection

Wear suitable protective breathing mask (BS EN 136) with filter A2-P2 (BS EN 14387).

#### Thermal hazards

No information.

#### Environmental exposure controls

#### Substance/mixture related measures to prevent exposure

No information.

#### Instruction measures to prevent exposure

No information.

#### Organisational measures to prevent exposure

No information.

#### Technical measures to prevent exposure

No information.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

#### Physical state

liquid

#### Colour

brown

#### Odour

characteristic

#### Important health, safety and environmental information

<b>Odour threshold</b>	No information.
<b>Melting point/Freezing point</b>	No information.
<b>Boiling point or initial boiling point and boiling range</b>	No information.
<b>Flammability</b>	No information.

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Lower and upper explosion limit	No information.
Flash point	No information.
Auto-ignition temperature	No information.
Decomposition temperature	No information.
pH	substance/mixture reacts with water
Viscosity	Dynamic: 50 mPas at 23 °C
Solubility	Water: insoluble
Partition coefficient	No information.
Vapour pressure	No information.
Density and/or relative density	Density: 1.1 — 1.2 g/cm <sup>3</sup> at 23 °C
Relative vapour density	No information.
Particle characteristics	No information.

### 9.2 OTHER INFORMATION

Explosive properties	No information.
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#### Other information

Isocyanates react with water.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 REACTIVITY

Reacts with water: may cause overpressure in closed vessel (CO<sub>2</sub>).

### 10.2 CHEMICAL STABILITY

Product is stable under normal conditions of use, recommended handling and storage conditions.

### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Product reacts slowly with water, releasing CO<sub>2</sub>, which can cause overpressure in closed containers. Danger of explosion.. MDI is not soluble in water and is heavier than water. It reacts with water, creating polyurea and CO<sub>2</sub>.

### 10.4 CONDITIONS TO AVOID

Protect from moisture and water - keep in dry place.

### 10.5 INCOMPATIBLE MATERIALS

Water, alcohols, amines, bases, and acids.

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released. Carbon dioxide; Carbon monoxide.

Nitrogen oxides.

Hydrocarbons. HCN.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) NO 1272/2008

#### (a) Acute toxicity

#### For components

Name	Exposure route	Type	Species	Time	value	Method	Remark
'4,4'-methylenedi phenyl diisocyanate	oral	LD <sub>50</sub>	rat	/	> 2000 mg/kg / bw		read-across
'4,4'-methylenedi phenyl diisocyanate	dermal	LD <sub>50</sub>	rabbit	24 h	> 9400 mg/kg	OECD 402	read-across



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Name	Exposure route	Type	Species	Time	value	Method	Remark
'4,4'-methylenedi phenyl diisocyanate	inhalation (aerosol)	LC <sub>50</sub>	rat	1 h	> 2.24 mg/l	OECD 403	experimental value

### Additional information

Harmful if inhaled.

### (b) Skin corrosion/irritation

For components

Name	Species	Time	result	Method	Remark
'4,4'-methylenediphenyl diisocyanate	rabbit	/	Irritating to skin.	OECD 404 (Acute Dermal Irritation/Corrosion)	24, 48, 72 h; read-across
'4,4'-methylenediphenyl diisocyanate	human	/	Irritating.	/	weight of evidence

### Additional information

Causes skin irritation.

### (c) Serious eye damage/irritation

For components

Name	Exposure route	Species	Time	result	Method	Remark
'4,4'-methylenediphenyl diisocyanate	/	human	/	Irritating.	/	weight of evidence

### Additional information

Causes serious eye irritation.

### (d) Respiratory or skin sensitisation

For components

Name	Exposure route	Species	Time	result	Method	Remark
'4,4'-methylenediphenyl diisocyanate	dermal	/	/	May cause sensitisation by skin contact.	/	Literature
'4,4'-methylenediphenyl diisocyanate	inhalation	Guinea pig (male/female)	/	May cause sensitisation by inhalation.	/	experimental value
'4,4'-methylenediphenyl diisocyanate	inhalation	rat	/	May cause sensitisation by inhalation.	/	experimental value

### Additional information

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

### (e) (Germ cell) mutagenicity

For components

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Name	Type	Species	Time	result	Method	Remark
'4,4'-methylene diphenyl diisocyanate	in-vitro mutagenicity	Bacteria ( <i>S. typhimurium</i> )	/	Negative.	OECD 471 (EU B. 12/13)	experimental value
'4,4'-methylene diphenyl diisocyanate	in-vivo mutagenicity	rat	3 h	Negative.	OECD 474	experimental value

(f) Carcinogenicity

For components

Name	Exposure route	Type	Species	Time	value	result	Method	Remark
'4,4'-methylene diphenyl diisocyanate	inhalation (aerosol)	NOAEC	rat	728 days	1 mg/m <sup>3</sup>	No effect	OECD 451 Carcinogenicity Studies	5 days per week, 6 hours per day; by analogy
'4,4'-methylene diphenyl diisocyanate	inhalation (aerosol)	LOAEL	rat (respiratory ways)	728 days	6 mg/m <sup>3</sup>	/	OECD 451 Carcinogenicity Studies	5 days per week, 6 hours per day; by analogy

(g) Reproductive toxicity

For components

Name	Reproductive toxicity type	Type	Species	Time	value	result	Method	Remark
'4,4'-methylene diphenyl diisocyanate	Developmental toxicity	NOAEL (P)	rat (female)	10 days	4 mg/m <sup>3</sup>	Maternal toxicity	OECD 414	6 h per day; by analogy
'4,4'-methylene diphenyl diisocyanate	Developmental toxicity	NOAEL (F1)	rat (female)	10 days	4 mg/m <sup>3</sup>	Teratogenicity	OECD 414	6 h per day; by analogy

Summary of evaluation of the CMR properties

Suspected of causing cancer.

(h) STOT-single exposure

For components

Name	Exposure route	Type	Species	Time	Exposure organ	value	result	Method	Remark
'4,4'-methylene diphenyl diisocyanate	inhalation /		human	/	/	/	Irritating.	/	weight of evidence

Additional information

STOT - single exposure: May cause respiratory irritation.

(i) STOT-repeated exposure

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### For components

Name	Exposure route	Type	Species	Time	Exposure organ	value	result	Method	Remark
'4,4'-methylenediphenyl diisocyanate	inhalation (aerosol)	NOAEC	rat	104 weeks	sub-chronic	/	0.2 mg/m <sup>3</sup>	No effect. OECD 453	6 h per day, 5 days per week
'4,4'-methylenediphenyl diisocyanate	inhalation (aerosol)	LOAEC	rat	104 weeks	sub-chronic	Respiratory tract	1 mg/m <sup>3</sup>	/	OECD 453 6 h per day, 5 days per week

### Additional information

May cause damage to organs through prolonged or repeated exposure.

### (j) Aspiration hazard

No information.

### Symptoms related to the physical, chemical and toxicological characteristics

No information.

### Interactive effects

No information.

## 11.2 INFORMATION ON OTHER HAZARDS

### Endocrine disrupting properties

No information.

### Other information

No information.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 TOXICITY

#### Acute (short-term) toxicity

#### For components

Name	Type	value	Exposure time	Species	organism	Method	Remark
'4,4'-methylenediphenyl diisocyanate	LC <sub>50</sub>	> 1000 mg/L	96 h	fish	<i>Brachydanio rerio</i>	OECD 203	Static system, Fresh water, read-across
'4,4'-methylenediphenyl diisocyanate	EC <sub>50</sub>	129.7 mg/L	24 h	daphnia	<i>Daphnia magna</i>	202 (Daphnia sp. Acute Immobilisation Test)	Static system, Fresh water, read-across
'4,4'-methylenediphenyl diisocyanate	EC <sub>50</sub>	> 1640 mg/L	72 h	Aquatic plants	<i>Desmodium subspicatus</i>	OECD 201	Static system, Fresh water, read-across

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Name	Type	value	Exposure time	Species	organism	Method	Remark
'4,4'-methylenedi phenyl diisocyanate	EC <sub>50</sub>	> 100 mg/L	3 h	microorganism	Activated sludge	OECD 209 Activated Sludge, Respiration Inhibition Test	Static system, Fresh water, read-across

Chronic (long-term) toxicity

For components

Name	Type	value	Exposure time	Species	organism	Method	Remark
'4,4'-methylenedi phenyl diisocyanate	NOEC	10 mg/l	21 days	Magna Daphnia	<i>Daphnia magna</i>	OECD 211	semi-static, fresh water, read-across

### 12.2 PERSISTENCE AND DEGRADABILITY

Abiotic degradation, physical- and photo-chemical elimination

No information.

Biodegradation

For components

Name	Type	Rate	Time	Evaluation	Method	Remark
'4,4'-methylenedi phenyl diisocyanate	aerobic	%	28 days	0 %	OECD 302C Test	read-across

### 12.3 BIOACCUMULATIVE POTENTIAL

Partition coefficient

For components

Name	Media	value	Temperature °C	pH	Concentration	Method
'4,4'-methylenedi phenyl diisocyanate	Octanol-water (log Pow)	4.51	/	/	/	/

Bioconcentration factor (BCF)

For components

Name	Species	organism	value	Duration	Evaluation	Method	Remark
'4,4'-methylenedi phenyl diisocyanate	organism	<i>Cyprinus carpio</i>	92 - 200	4 weeks	/	OECD 305	experimental value

### 12.4 MOBILITY IN SOIL

Known or predicted distribution to environmental compartments

No information.

Surface tension

No information.

Adsorption/Desorption

For components

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Name	Type	Criterion	value	Evaluation	Method	Remark
'4,4'-methylenediphenyl diisocyanate	Soil	Henry constant (H)	8.9E-7 Pa.m <sup>3</sup> / mol	/	/	25 °C

### 12.5 RESULTS OF PBT AND VPVB ASSESSMENT

No evaluation.

### 12.6 ENDOCRINE DISRUPTING PROPERTIES

No information.

### 12.7 OTHER ADVERSE EFFECTS

No information.

### 12.8 ADDITIONAL INFORMATION

#### For product

Do not allow to reach ground water, water courses or sewage system. Isocyanates react with water to form an insoluble polyurea. Product is not classified as dangerous for environment.

#### For components

#### **'4,4'-methylenediphenyl diisocyanate**

Under normal use conditions no negative environmental effects expected.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 WASTE TREATMENT METHODS

#### Product / Packaging disposal

#### Waste chemical

Dispose according to regulations. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Do not allow product to reach drains/sewage systems.

#### Waste codes / waste designations according to LoW

08 04 09\* - waste adhesives and sealants containing organic solvents or other dangerous substances

#### Packaging

Packaging must be completely emptied - scrape with a spatula or brush so that the remaining amount of goods is no longer usable and does not drip from the packaging. Packaging emptied in this way is not hazardous waste. Uncleaned / not emptied containers are classified as hazardous waste - they should be handled in the same manner as the contents. Empty container is not suitable for reuse. Deliver completely emptied containers to approved waste disposal authorities.

#### Waste codes / waste designations according to LoW

15 01 02 - plastic packaging

15 01 04 - metallic packaging

15 01 10\* - packaging containing residues of or contaminated by dangerous substances

#### Waste treatment-relevant information

No information.

#### Sewage disposal-relevant information

No information.

#### Other disposal recommendations

No information.

## SECTION 14: TRANSPORT INFORMATION

ADR/RID	IMDG	IATA	ADN
<b>14.1 UN number or ID number</b>			
Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.
<b>14.2 UN proper shipping name</b>			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
<b>14.3 Transport hazard class(es)</b>			



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ADR/RID	IMDG	IATA	ADN
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
<b>14.4 Packing group</b>			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
<b>14.5 Environmental hazards</b>			
NO	NO	NO	NO
<b>14.6 Special precautions for user</b>			
Limited quantities	Limited quantities		Limited quantities
Not given/not applicable	Not given/not applicable		Not given/not applicable
<b>14.7 Maritime transport in bulk according to IMO instruments</b>			
	Not given/not applicable		

## 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) 2020/878)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

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

EU limit values and category: A(h) 750 g/l. VOC Content: 750 g/l

#### Regulation EC 648/2004 on detergents

No information.

#### Special instructions

Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Terms of restriction: 56 Methylenediphenyl diisocyanate (MDI):

1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0,1 % by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging:

(a) contains protective gloves which comply with the requirements of Council Directive 89/686/ EEC;

(b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures:

„— 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. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives. Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Terms of restriction: 74.

### 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

2.2 Label elements 8.2 Exposure controls 9.1 Information on basic physical and chemical properties

#### Key literature references and sources for data

No information.

#### Abbreviations and acronyms

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**ATE - Acute Toxicity Estimate**

ADR - 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  
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

**List of relevant H 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.



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