

Safety data sheet

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

1.1 PRODUCT IDENTIFIER

Product name

PARKETOLIT PR50

UFI:

1TH6-4A3U-VN10-DYK8



<https://my.chemius.net/p/AHV/T1R/en/pd/en>

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

Relevant identified uses

One component polyurethane coating with organic solvents

Uses advised against

No information.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Manufacturer

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

Manufacturer

+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)

Flam. Liq. 3; H226 Flammable liquid and vapour.
Acute Tox. 4; H312 + H332 Harmful in contact with skin or if inhaled.
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.
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

H226 Flammable liquid and vapour.
H312 + H332 Harmful in contact with skin or if inhaled.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
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.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
P501 Dispose of contents/container in accordance with national regulation.

Contains:

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xylene
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

The product does not contain substances with the potential for endocrine disorders.

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 Concentration Limits	Notes for substances
reaction mass of ethylbenzene and m-xylene and p-xylene	- 905-562-9 - 01-2119555267- 33	30-70	Flam. Liq. 3; H226 / Asp. Tox. 1; H304 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335 STOT RE 2; H373		/
xylene	1330-20-7 215-535-7 601-022-00-9 01-2119488216- 32	30-70	Flam. Liq. 3; H226 / Asp. Tox. 1; H304 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335 STOT RE 2; H373		C

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Name	CAS EC Index Reach	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Concentration Limits	Notes for substances
isocyanic acid, polymethylenep olyphenylene ester, polymer with .alpha.- hydro-.omega.- hydroxypoly(oxy (methyl-1,2- ethanediyl)]	53862-89-8 - -	35-50	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	/	/
polymeric MDI	9016-87-9 - -	20-25	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	/	/
ethylbenzene	100-41-4 202-849-4 601-023-00-4	9-21	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Acute Tox. 4; H332 STOT RE 2; H373	/	/
'4,4'- methylenediphe nyl diisocyanate	101-68-8 202-966-0 615-005-00-9 01-2119457014- 47	5-10	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
o-xylene	95-47-6 202-422-2 601-022-00-9	5-10	Flam. Liq. 3; H226 Acute Tox. 4; H312 Skin Irrit. 2; H315 Acute Tox. 4; H332	/	C

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Name	CAS EC Index Reach	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Concentration Limits	Notes for substances
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	- 905-806-4 - 01-2119457015-45	1-< 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	/	/
toluene	108-88-3 203-625-9 601-021-00-3	<1	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361d STOT RE 2; H373	/	/

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.
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SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

General notes

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. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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.

Following skin contact

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

Following eye contact

Redness, tearing, pain.

Following ingestion

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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 (CO₂).
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 (CO₂).
Nitrogen oxides (NO_x).
Metallic oxides.

5.3 ADVICE FOR FIREFIGHTERS

Protective actions

Cool containers at risk with water spray. If possible remove containers from endangered area. Vapours can form explosive mixtures with air. Prolonged heating can cause an explosion. The reaction with water produces CO₂, 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. Contaminated firefighting water and fire residues must be disposed of in accordance with the local regulations.

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. Keep away from sources of ignition and/or heat; No smoking! Take precautionary measures against static discharges. Protect from open fire and other possible sources of ignition.

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

Dam the spillage.

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 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.

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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. Use spark-proof tools. Take precautionary measures against static discharges. Vapours and air form explosive mixtures. Ensure proper grounding of the equipment.

Measures to prevent aerosol and dust generation

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

Measures to protect the environment

Do not discharge into drains, surface water and soil. After use immediately close container tightly.

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. Protect from open fire, heat and direct sunlight. Keep away from food, drink and animal feeding stuffs. Handle and open the container carefully. Flammable mixtures may be formed in empty containers. Empty containers may still contain explosive vapors and are therefore considered as hazardous waste. Keep away from oxidising substances. Store in a closed and properly labeled containers away from strong oxidising agents. Storage temperature: +5 - 25 ° C. Keep away from moisture and water.

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

Name	mg/m ³	ml/m ³	Short-term value mg/m ³	Short-term value ml/m ³	Remark	Biological Tolerance Values
'4,4'-methylenediphenyl diisocyanate	0.07	/	/	/	STEL, EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin sensitiser. (as NCO) 15 minute(s).	/

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Name	mg/m ³	ml/m ³	Short-term value mg/m ³	Short-term value ml/m ³	Remark	Biological Tolerance Values
'4,4'-methylenediphenyl diisocyanate	0.05	/	/	/	TWA	/
'4,4'-methylenediphenyl diisocyanate	0.02	/	/	/	TWA, EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin sensitizer. (as NCO) 8 hour(s).	/
ethylbenzene	442	100	/	/	Europe ILV (Indicati	/
ethylbenzene	440	100	/	/	TWA, Germany	/
ethylbenzene	440	100	/	/	TWA, SI OEL	/
Ethylbenzene (100-41-4)	441	100	552	125	Sk	/
Xylene, o-,m-,p- or mixed isomers (1330-20-7)	220	50	441	100	Sk, BMGV	650 mmol methyl hippuric acid/mol creatinine in urine - Post shift
Toluene (108-88-3)	191	50	384	100	Sk	/

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

Name	Type	Exposure route	exp. frequency	Remark	value
reaction mass of ethylbenzene and m-xylene and p-xylene	Worker	inhalation	long term systemic effects	/	221 mg/m ³
reaction mass of ethylbenzene and m-xylene and p-xylene	Worker	inhalation	short term systemic effects	/	442 mg/m ³
reaction mass of ethylbenzene and m-xylene and p-xylene	Worker	dermal	short term systemic effects	/	3182 mg/kg bw/day

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Name	Type	Exposure route	exp. frequency	Remark	value
reaction mass of ethylbenzene and m-xylene and p-xylene	Consumer	inhalation	long term systemic effects	/	65.3 mg/m ³
reaction mass of ethylbenzene and m-xylene and p-xylene	Consumer	inhalation	short term systemic effects	/	260 mg/m ³
reaction mass of ethylbenzene and m-xylene and p-xylene	Consumer	dermal	long term systemic effects	/	1872
reaction mass of ethylbenzene and m-xylene and p-xylene	Consumer	oral	long term systemic effects	/	12.5
xylene	Worker	inhalation	short term systemic effects	/	289 mg/m ³
xylene	Worker	inhalation	short term local effects	/	289 mg/m ³
xylene	Worker	dermal	long term systemic effects	/	180 mg/kg
xylene	Worker	inhalation	long term systemic effects	/	77 mg/m ³
xylene	Consumer	inhalation	short term systemic effects	/	174 mg/m ³
xylene	Consumer	inhalation	short term local effects	/	174 mg/m ³
xylene	Consumer	dermal	long term systemic effects	/	108 mg/kg
xylene	Consumer	inhalation	long term systemic effects	/	14.8 mg/m ³
'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 ³
'4,4'-methylenediphenyl diisocyanate	Worker	dermal	short term systemic effects	/	28.7 mg/cm ²
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	short term systemic effects	/	0.1 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	long term systemic effects	/	0.05 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	long term systemic effects	/	0.05 mg/m ³

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Name	Type	Exposure route	exp. frequency	Remark	value
'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 ³
'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 ²
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	short term local effects	/	0.05 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	long term systemic effects	systemic	0.025 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	long term local effects	/	0.025 mg/m ³
ethylbenzene	Consumer	inhalation	long term systemic effects	/	14.8 mg/m ³
ethylbenzene	Consumer	oral	long term systemic effects	/	1.6 mg/kg
ethylbenzene	Worker	dermal	long term systemic effects	/	180 mg/kg
ethylbenzene	Worker	inhalation	long term systemic effects	/	77 mg/m ³
ethylbenzene	Worker	inhalation	short term systemic effects	/	289 mg/m ³
ethylbenzene	Consumer	dermal	long term systemic effects	/	108 mg/kg
ethylbenzene	Consumer	inhalation	short term systemic effects	/	174 mg/m ³
ethylbenzene	Consumer	inhalation	short term local effects	/	174 mg/m ³

PNEC values

For product

No information.

For components

Name	Exposure route	Remark	value
reaction mass of ethylbenzene and m-xylene and p-xylene	fresh water	/	0.25 mg/L
reaction mass of ethylbenzene and m-xylene and p-xylene	marine water	/	0.25 mg/L
reaction mass of ethylbenzene and m-xylene and p-xylene	fresh water sediment	/	14.33 mg/kg

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Name	Exposure route	Remark	value
reaction mass of ethylbenzene and m-xylene and p-xylene	soil	/	2.41 mg/kg
xylene	fresh water	/	0.327 mg/L
xylene	marine water	/	0.327 mg/L
xylene	water, intermittent release	/	0.327 mg/L
xylene	water treatment plant	/	6.58 mg/L
xylene	fresh water sediment	/	12.46 mg/kg
xylene	marine water sediment	/	12.46 mg/kg
xylene	soil	/	2.31 mg/kg
'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
'4,4'-methylenediphenyl diisocyanate	water, intermittent release	/	10 mg/L
'4,4'-methylenediphenyl diisocyanate	water treatment plant	/	1 mg/L
ethylbenzene	soil	/	2.68 mg/kg
ethylbenzene	fresh water	/	0.1 mg/L
ethylbenzene	marine water	/	0.01 mg/L
ethylbenzene	water, intermittent release	/	0.1 mg/L
ethylbenzene	fresh water sediment	/	13.7 mg/kg
ethylbenzene	water treatment plant	/	9.6 mg/L

8.2 EXPOSURE CONTROLS

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. Avoid contact with eyes and skin. Do not breathe vapours/aerosols. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke while working. Keep away from direct sun-light or other heat sources and sources of ignition.

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 (BS EN ISO 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

Material	Thickness	Penetration Time	Remark
chloroprene rubber	0.5 mm	480 min	/
Nitrile	0.35 mm	480 min	/

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Material	Thickness	Penetration Time	Remark
Butyl rubber	0.5 mm	480 min	/
Viton (fluorinated rubber)	0.4 mm	480 min	/

Skin protection

Cotton protective clothing and shoes that cover the entire foot (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

Important health, safety and environmental information

Physical state	liquid
Shape	No information.
Colour	brown
Odour	solvent like
Odour threshold	No information.
Melting/freezing point or softening point	No information.
Boiling point or initial boiling point and boiling range	138 — 142 °C
Flammability (solid, gas)	No information.
Explosion limits (vol%)	1.1 — 6.6 % v/v
Flash point	ca. 25 °C (DIN ISO 22719)
Auto-ignition temperature	No information.
Decomposition temperature	No information.
pH	substance/mixture reacts with water
Viscosity (dynamic)	≤ 100 mPas
Solubility (Water)	Insoluble
Partition coefficient n-octanol/water (log value)	No information.
Vapour pressure	No information.
Density	ca. 1 g/cm ³ at 20 °C (DIN 51757)
Relative vapour density	3.7
Particle characteristics	No information.

9.2 OTHER INFORMATION

Information with regard to physical hazard classes

No information.

Other safety characteristics

No information.

Other information

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Isocyanates react with water.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

Reacts with water: may cause overpressure in closed vessel (CO₂).

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 CO₂, 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 CO₂.

10.4 CONDITIONS TO AVOID

Protect from heat, direct sunlight, open fire, sparks. Protect against electrostatic charge build-up.

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
xylene	oral	LD ₅₀	/	/	2000 - 5000 mg/kg	/	/
xylene	inhalation	LC ₅₀	/	/	10 - 20 mg/l	/	/
'4,4'-methylenedi phenyl diisocyanate	oral	LD ₅₀	rat	/	> 2000 mg/kg / bw	/	read-across
'4,4'-methylenedi phenyl diisocyanate	dermal	LD ₅₀	rabbit	24 h	> 9400 mg/kg	OECD 402	read-across
'4,4'-methylenedi phenyl diisocyanate	inhalation (aerosol)	LC ₅₀	rat	1 h	> 2.24 mg/l	OECD 403	experimental value
ethylbenzene	oral	LD ₅₀	rat	/	3500 mg/kg	/	/
ethylbenzene	dermal	LD ₅₀	rabbit	/	15354 mg/kg	/	/
ethylbenzene	inhalation	LC ₅₀	rat	4 h	17.2 mg/l	/	vapour

Additional information

Harmful if inhaled. Harmful in contact with skin.

(b) Skin corrosion/irritation

For components

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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

Irritating to respiratory system, eyes and skin.

(c) Serious eye damage/irritation

For components

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

(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

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

(f) Carcinogenicity

For components

Safety data sheet

Name	Exposure route	Type	Species	Time	value	result	Method	Remark
'4,4'-methylene diphenyl diisocyanate	inhalation (aerosol)	NOAEC	rat	728 days	1 mg/m ³	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 ³	/	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 ³	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 ³	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
ethylbenzene	inhalation /		/	/	/	/	Harmful by inhalation	/	/

(i) STOT-repeated exposure

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/m³	No effect.	OECD 453	6 h per day, 5 days per week

Safety data sheet

Name	Exposure route	Type	Species	Time	Exposure organ	value	result	Method	Remark
'4,4'-methylenediphenyl diisocyanate	inhalation (aerosol)	LOAEC	rat	104 weeks	sub-chronic	Respiratory tract	1 mg/m3	/	OECD 453 6 h per day, 5 days per week

Additional information

May cause damage to organs through prolonged or repeated exposure if inhaled.

(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

The product does not contain substances with the potential for endocrine disorders.

Other information

No information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY

Acute (short-term) toxicity

For product

Type	Exposure time	Species	organism	Method	Remark	value
LC ₅₀	/	fish	/	/	/	> 1000 mg/L
LC ₅₀	/	bacteria	/	/	/	> 100 mg/L

For components

Name	Type	value	Exposure time	Species	organism	Method	Remark
reaction mass of ethylbenzene and m-xylene and p-xylene	LC ₅₀	> 1.3 mg/L	/	fish	/	/	/
xylene	LC ₅₀	26.7 mg/L	96 h	fish	<i>Pimephales promelas</i>	/	/
xylene	LC ₅₀	16.9 mg/L	96 h	fish	<i>Carassius auratus</i>	/	/
xylene	LC ₅₀	20.9 mg/L	96 h	fish	<i>Lepomis macrochirus</i>	/	/
xylene	LC ₅₀	34.7 mg/L	96 h	fish	<i>Poecilia reticulata</i>	/	/
xylene	EC ₅₀	1 mg/L	48 h	crustacea	<i>Daphnia magna</i>	/	/
xylene	IC ₅₀	2.2 mg/L	72 h	algae	/	/	/

Safety data sheet

Name	Type	value	Exposure time	Species	organism	Method	Remark
'4,4'-methylenedi phenyl diisocyanate	LC ₅₀	> 1000 mg/L	96 h	fish	<i>Brachydanio rerio</i>	OECD 203	Static system, Fresh water, read-across
'4,4'-methylenedi phenyl diisocyanate	EC ₅₀	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'-methylenedi phenyl diisocyanate	EC ₅₀	> 1640 mg/L	72 h	Aquatic plants	<i>Desmodesmus subspicatus</i>	OECD 201	Static system, Fresh water, read-across
'4,4'-methylenedi phenyl diisocyanate	EC ₅₀	> 100 mg/L	3 h	microorganisms	Activated sludge	OECD 209 Activated Sludge, Respiration Inhibition Test	Static system, Fresh water, read-across
ethylbenzene	EC ₅₀	33 mg/L	72 h	algae	/	/	/
ethylbenzene	LC ₅₀	12 mg/L	96 h	fish	/	/	/

Chronic (long-term) toxicity

For components

Name	Type	value	Exposure time	Species	organism	Method	Remark
xylene	NOEC	> 1.3 mg/l	56 days	fish	/	/	/
xylene	NOEC	0.96 mg/l	7 days	Magna Daphnia	/	/	/
'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
ethylbenzene	NOEC	6.8	48 h	Magna Daphnia	<i>Daphnia magna</i>	/	/
ethylbenzene	NOEC	3.3 mg/l	96 h	fish	<i>Menidia menidia</i>	/	/

12.2 PERSISTENCE AND DEGRADABILITY

Abiotic degradation, physical- and photo-chemical elimination

No information.

Biodegradation

For product

Type	Rate	Time	Evaluation	Method	Remark
aerobic	/	28 days	Non-biodegradable	/	/

For components

Safety data sheet

Name	Type	Rate	Time	Evaluation	Method	Remark
'4,4'-methylenediphenyl diisocyanate	aerobic	%	28 days	0 %	OECD 302C Test	Analogy
ethylbenzene	aerobic	%	/	/	OECD 301 A (Modified AFNOR Test)	/

Additional information

Contains non readily biodegradable component(s).

12.3 BIOACCUMULATIVE POTENTIAL

Partition coefficient n-octanol/water (log value)

For components

Name	Media	value	Temperature °C	pH	Concentration	Method
'4,4'-methylenediphenyl diisocyanate	Octanol-water (log Pow)	4.51	/	/	/	/
ethylbenzene	Octanol-water (log Pow)	3.15	/	/	/	/

Bioconcentration factor (BCF)

For components

Name	Species	organism	value	Duration	Evaluation	Method	Remark
xylene	BCF	/	25.9	/	/	/	/
'4,4'-methylenediphenyl diisocyanate	organism	<i>Cyprinus carpio</i>	92 - 200	4 weeks	/	OECD 305	experimental value

Additional information

No bioaccumulation expected.

12.4 MOBILITY IN SOIL

Known or predicted distribution to environmental compartments

No information.

Surface tension

No information.

Adsorption/Desorption

For components

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

12.5 RESULTS OF PBT AND VPVB ASSESSMENT

No evaluation.

12.6 ENDOCRINE DISRUPTING PROPERTIES

The product does not contain substances with the potential for endocrine disorders.

12.7 OTHER ADVERSE EFFECTS

No information.

12.8 ADDITIONAL INFORMATION

Safety data sheet

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. Under normal use conditions no negative environmental effects expected.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Product / Packaging disposal

Waste chemical

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

Uncleaned containers should not be perforated, cut or welded. 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
14.1 UN number or ID number			
UN 1263	UN 1263	UN 1263	UN 1263
14.2 UN proper shipping name			
PAINT	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)			
3	3	3	3
			
14.4 Packing group			
III	III	III	III
14.5 Environmental hazards			
NO	NO	NO	NO
14.6 Special precautions for user			

Safety data sheet

ADR/RID	IMDG	IATA	ADN
Limited quantities 5 L Special provisions 163, 367, 650 Packing Instructions P001, IBC03, LP01, R001 Special packing provisions PP1 Transport category 3 Tunnel restriction code (D/E) Classification code F1	Limited quantities 5 L EmS F-E, S-E Flash point 25 °C	Limited Quantity, Packing Instructions (Ltd Qty, Pkg Inst) Y344 Limited Quantity, Maximum Net Quantity/Package (Ltd Qty, Max Net Qty/Pkg) 10 L Packing Instructions (Pkg Inst) 355 Maximum Net Quantity/Package (Max Net Qty/Pkg) 25 L Cargo Aircraft Only, Packing Instructions (CAO, Pkg Inst) 366 Special provisions A3, A72, A192 ERG code 3L	Limited quantities 5 L
14.7 Maritime transport in bulk according to IMO instruments	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) 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: 350 g/l

Ingredients according to Regulation (EC) No 648/2004 on detergents

No information.

Special instructions

VOC data are indicated on the label if applicable. Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Terms of restriction: 48 toluene - Shall not be placed on the market, or used, as a substance or in mixtures in a concentration equal to or greater than 0,1 % by weight where the substance or mixture is used in adhesives or spray paints intended for supply to the general public. 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



Safety data sheet

Indication of changes

2.2 Label elements 2.3 Other hazards 5.1 Extinguishing media 6.3 Methods and material for containment and cleaning up 8.1 Control parameters 9.1 Information on basic physical and chemical properties 9.2 Other information 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 11.2 Information on other hazards 12.1 Toxicity 12.2 Persistence and degradability 12.3 Bioaccumulative potential 12.6 Endocrine disrupting properties 14. Transport information 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Key literature references and sources for data

MSDS, PARKETOLIT PR50, Mitol d.d., date: 29.10.2012

Abbreviations and acronyms

Safety data sheet

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

EWG - 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



Safety data sheet

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
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.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.