

# PU BOND

## SAFETY DATA SHEET

According to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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**Safety Data Sheet**

According to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form : Mixture  
Trade name : Pandser PU Bond

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Intended for general public  
Main use category : Industrial use, Professional use, Consumer use  
Use of the substance/mixture : Adhesives, sealants

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet****Supplier**

Berdal Rubber & Plastics B.V.  
Bedrijvenpark Twente 193  
7602 KG Almelo Nederland  
Tel: +31 (0)546 572672 Fax: +31 (0)546 575635  
E-Mail: verkoop@berdal.com

**1.4. Emergency telephone number**

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	NHS 111/NHS 24/NHS Direct		111 0845 4647	or call a doctor

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Acute toxicity (inhalation:dust,mist) Category 4 H332  
Skin corrosion/irritation, Category 2 H315  
Serious eye damage/eye irritation, Category 2 H319  
Respiratory sensitisation, Category 1 H334  
Skin sensitisation, Category 1 H317  
Carcinogenicity, Category 2 H351  
Specific target organ toxicity – Single exposure, Category 3, H335  
Respiratory tract irritation  
Specific target organ toxicity – Repeated exposure, Category 2 H373  
Full text of H- and EUH-statements: see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



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According to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Signal word (CLP)	: GHS07      GHS08 : Danger
Contains	: polymethylene polyphenyl isocyanate
Hazard statements (CLP)	: 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.
Precautionary statements (CLP)	: P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P261 - Avoid breathing vapours, spray, mist. P280 - Wear protective gloves, eye 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. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Extra phrases	: 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**

The product does not meet the PBT and vPvB classification criteria

 Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Component	
di-isononyl phthalate (28553-12-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
4,4'-methylenediphenyl diisocyanate (101-68-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
polymethylene polyphenyl isocyanate (9016-87-9)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

**SECTION 3: Composition/information on ingredients**
**3.1. Substances**

Not applicable

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According to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**3.2. Mixtures**

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
polymethylene polyphenyl isocyanate substance with national workplace exposure limit(s) (GB)	CAS-No.: 9016-87-9 EC-No.: 248-740-5	≥ 25 – < 50	Carc. 2, H351 Resp. Sens. 1, H334 Skin Sens. 1, H317 Acute Tox. 4 (Inhalation), H332 (ATE=1.5 mg/l/4h) STOT RE 2, H373 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Polypropylene glycol	CAS-No.: 25322-69-4	≥ 25 – < 50	Acute Tox. 4 (Oral), H302 (ATE=1000 mg/kg bodyweight)
4,4'-methylenediphenyl diisocyanate substance with national workplace exposure limit(s) (GB)	CAS-No.: 101-68-8 EC-No.: 202-966-0 EC Index-No.: 615-005-00-9 REACH-no: 01-2119457014-47	≥ 10 – < 25	Carc. 2, H351 Acute Tox. 4 (Inhalation), 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
di-isononyl phthalate substance with national workplace exposure limit(s) (GB)	CAS-No.: 28553-12-0 EC-No.: 249-079-5 REACH-no: 01-2119430798-28	≥ 10 – < 25	Not classified

**Specific concentration limits:**

Name	Product identifier	Specific concentration limits (%)
4,4'-methylenediphenyl diisocyanate	CAS-No.: 101-68-8 EC-No.: 202-966-0 EC Index-No.: 615-005-00-9 REACH-no: 01-2119457014-47	(0.1 ≤ C ≤ 100) Resp. Sens. 1, H334 (5 ≤ C ≤ 100) Eye Irrit. 2, H319 (5 ≤ C ≤ 100) Skin Irrit. 2, H315 (5 ≤ C ≤ 100) STOT SE 3, H335

Comments : polymethylene polyphenyl isocyanate, contains &gt; 0.1% MDI isomers

Full text of H- and EUH-statements: see section 16

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Suspected of causing cancer.
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
First-aid measures after skin contact	: Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Wash off immediately with soap and plenty of water.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Consult an eye specialist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects : Causes damage to organs.

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Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.

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

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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

Fire hazard	: On heating/burning: release of carbon monoxide - carbon dioxide. Nitrous fumes. Decomposes on exposure to temperature rise: formation of small quantities of hydrogen cyanide. Reacts violently with hot water: pressure rise and possible bursting of container.
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**5.3. Advice for firefighters**

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Continue water spray from protected position until container stays cool. Do not move the load if exposed to heat. Dilute toxic gases with water spray.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Emergency procedures	: Evacuate unnecessary personnel.
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**6.1.2. For emergency responders**

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

**6.2. Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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**6.4. Reference to other sections**

See Section 8. Exposure controls and personal protection.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Precautions for safe handling	: Provide good ventilation in process area to prevent formation of vapour. Avoid breathing vapours, spray, mist. Do not handle until all safety precautions have been read and understood.
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Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage area : Store away from heat. Store in tightly closed containers.

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

No additional information available

**SECTION 8: Exposure controls/personal protection**
**8.1. Control parameters**
**8.1.1 National occupational exposure and biological limit values**

di-isononyl phthalate (28553-12-0)	
United Kingdom - Occupational Exposure Limits	
Local name	Diisononyl phthalate
WEL TWA (OEL TWA)	5 mg/m <sup>3</sup>
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
4,4'-methylenediphenyl diisocyanate (101-68-8)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	0.02 mg/m <sup>3</sup>
WEL STEL (OEL STEL)	0.07 mg/m <sup>3</sup>
polymethylene polyphenyl isocyanate (9016-87-9)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	0.02 mg/m <sup>3</sup>
WEL STEL (OEL STEL)	0.07 mg/m <sup>3</sup>

**8.1.2. Recommended monitoring procedures**

No additional information available

**8.1.3. Air contaminants formed**

No additional information available

**8.1.4. DNEL and PNEC**

No additional information available

**8.1.5. Control banding**

No additional information available

**8.2. Exposure controls**
**8.2.1. Appropriate engineering controls**
**Appropriate engineering controls:**

Measure concentrations regularly, and at the time of any change occurring in conditions likely to have consequences on workers exposure. Ensure good ventilation of the work station.

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According to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**8.2.2. Personal protection equipment****Personal protective equipment:**

Avoid all unnecessary exposure.

**Personal protective equipment symbol(s):****8.2.2.1. Eye and face protection****Eye protection:**

Chemical goggles or safety glasses. (EN 166)

**8.2.2.2. Skin protection****Skin and body protection:**

Protective clothing (EN 14605 or EN 13034)

**Hand protection:**

Suitable gloves type: Chemical resistant PVC gloves (to European standard ISO 374-1 or equivalent), Nitrile rubber, Butyl rubber, protective gloves: neoprene gloves, PVA. Permeation time: minimum >480min long term exposure; material / thickness [mm]: Chloroprene rubber (CR) / 0.5mm. Permeation time: minimum >480min long term exposure; material / thickness [mm]: Nitrile rubber (NBR) / 0.35mm. Permeation time: minimum >480min long term exposure; material / thickness [mm]: Butyl rubber (IIR) / 0.5mm. Permeation time: minimum >480min long term exposure; material / thickness [mm]: Fluoroelastomer (FKM) / 0.4mm. Wear protective gloves.

**Other skin protection****Materials for protective clothing:**

Cotton or cotton/synthetic overalls or coveralls are normally suitable

**8.2.2.3. Respiratory protection****Respiratory protection:**

In case of inadequate ventilation wear respiratory protection. Gas mask with filter type A. According to EN529

**8.2.2.4. Thermal hazards**

No additional information available

**8.2.3. Environmental exposure controls****Other information:**

Do not eat, drink or smoke during use.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state	: Liquid
Colour	: brown.
Appearance	: liquid / paste.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: > 200 °C Data apply to the main component
Flammability	: Non flammable.
Explosive properties	: No data available.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 200 °C Data apply to the main component
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: pH not determined (not soluble in water)
Viscosity, kinematic	: 3478.261 mm <sup>2</sup> /s (calculated value)

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Viscosity, dynamic	: 4000 cP (ISO 2555)
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: < 0.1 Pa Data apply to the main component
Vapour pressure at 50°C	: Not available
Density	: 1.15 g/cm <sup>3</sup> (ISO 1183-1, 23°C)
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

**9.2. Other information**
**9.2.1. Information with regard to physical hazard classes**

No additional information available

**9.2.2. Other safety characteristics**

VOC content : ≤ 0.15 %

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

The product is non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability**

Stable under normal conditions of use.

**10.3. Possibility of hazardous reactions**

Reacts violently with water.

**10.4. Conditions to avoid**

Direct sunlight. Extremely high or low temperatures.

**10.5. Incompatible materials**

Strong acids. Strong bases.

**10.6. Hazardous decomposition products**

Nitric oxide/nitrogen dioxide. Carbon monoxide. Carbon dioxide.

**SECTION 11: Toxicological information**
**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation:dust,mist: Harmful if inhaled.

**Pandser PU Bond**

ATE CLP (dust,mist)	2.665 mg/l/4h
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**Polypropylene glycol (25322-69-4)**

LD50 oral rat	1000 – 2000 mg/kg (Rat, Oral)
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LD50 dermal rabbit	> 20000 mg/kg (Rabbit, Dermal)
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**di-isononyl phthalate (28553-12-0)**

LD50 oral rat	> 10000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
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di-isononyl phthalate (28553-12-0)	
LD50 dermal rabbit	> 3160 mg/kg bodyweight (24 h, Rabbit, Female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 4.4 mg/l air (4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 017 day(s))

4,4'-methylenediphenyl diisocyanate (101-68-8)	
LD50 oral rat	> 2000 mg/kg bodyweight (Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 9400 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	0.49 mg/l/4h

polymethylene polyphenyl isocyanate (9016-87-9)	
LD50 oral rat	> 10000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Literature study, Dermal)
LC50 Inhalation - Rat	10 – 20 mg/l/4h
LC50 Inhalation - Rat (Dust/Mist)	0.49 mg/l/4h
LC50 Inhalation - Rat (Vapours)	0.387 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.  
pH: pH not determined (not soluble in water)

Polypropylene glycol (25322-69-4)	
pH	4.5 – 7.5

di-isononyl phthalate (28553-12-0)	
pH	No data available in the literature

4,4'-methylenediphenyl diisocyanate (101-68-8)	
pH	7 (6.8E-3 g/l, 25 °C)

polymethylene polyphenyl isocyanate (9016-87-9)	
pH	No data available in the literature

Serious eye damage/irritation : Causes serious eye irritation.  
pH: pH not determined (not soluble in water)

Polypropylene glycol (25322-69-4)	
pH	4.5 – 7.5

di-isononyl phthalate (28553-12-0)	
pH	No data available in the literature

4,4'-methylenediphenyl diisocyanate (101-68-8)	
pH	7 (6.8E-3 g/l, 25 °C)

polymethylene polyphenyl isocyanate (9016-87-9)	
pH	No data available in the literature

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

Germ cell mutagenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Carcinogenicity : Suspected of causing cancer.

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<b>4,4'-methylenediphenyl diisocyanate (101-68-8)</b>	
IARC group	3 - Not classifiable
<b>di-isononyl phthalate (28553-12-0)</b>	
NOAEL (chronic, oral, animal/male, 2 years)	88.3 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: EPA OTS 798.3300 (Carcinogenicity), Remarks on results: other:Effect type: toxicity (migrated information)
NOAEL (chronic, oral, animal/female, 2 years)	108.6 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: EPA OTS 798.3300 (Carcinogenicity), Remarks on results: other:Effect type: toxicity (migrated information)
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
<b>di-isononyl phthalate (28553-12-0)</b>	
NOAEL (animal/female, F1)	200 – 260 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:EC Dangerous Substances Directive (67/548/EEC), Annex V, Part B; 1987, Guideline: EPA OTS 798.4700 (Reproduction and Fertility Effects)
STOT-single exposure	: May cause respiratory irritation.
<b>4,4'-methylenediphenyl diisocyanate (101-68-8)</b>	
STOT-single exposure	May cause respiratory irritation.
<b>polymethylene polyphenyl isocyanate (9016-87-9)</b>	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
<b>di-isononyl phthalate (28553-12-0)</b>	
NOAEL (dermal, rat/rabbit, 90 days)	≈ 500 mg/kg bodyweight Animal: rabbit
<b>4,4'-methylenediphenyl diisocyanate (101-68-8)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
<b>polymethylene polyphenyl isocyanate (9016-87-9)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure (if inhaled).
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
<b>Pandser PU Bond</b>	
Viscosity, kinematic	3478.261 mm <sup>2</sup> /s (calculated value)
<b>Polypropylene glycol (25322-69-4)</b>	
Viscosity, kinematic	149.105 mm <sup>2</sup> /s
<b>di-isononyl phthalate (28553-12-0)</b>	
Viscosity, kinematic	77.6 mm <sup>2</sup> /s (20 °C, OECD 114: Viscosity of Liquids, Test data)
<b>4,4'-methylenediphenyl diisocyanate (101-68-8)</b>	
Viscosity, kinematic	Not applicable (solid)
<b>polymethylene polyphenyl isocyanate (9016-87-9)</b>	
Viscosity, kinematic	No data available in the literature

**11.2. Information on other hazards**
**11.2.1. Endocrine disrupting properties**

No additional information available

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**11.2.2. Other information**

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

**SECTION 12: Ecological information**
**12.1. Toxicity**

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

<b>di-isononyl phthalate (28553-12-0)</b>	
LC50 - Fish [1]	> 102 mg/l (EU Method C.1, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	> 74 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	> 88 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 88 mg/l (EU Method C.3, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)

**polymethylene polyphenyl isocyanate (9016-87-9)**

LC50 - Other aquatic organisms [1]	> 1000 mg/l (96 h, Literature study)
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**12.2. Persistence and degradability**

<b>Pandser PU Bond</b>	
Persistence and degradability	Not established.
<b>Polypropylene glycol (25322-69-4)</b>	
Persistence and degradability	Biodegradability in water: no data available.
<b>di-isononyl phthalate (28553-12-0)</b>	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
<b>4,4'-methylenediphenyl diisocyanate (101-68-8)</b>	
Persistence and degradability	Not readily biodegradable in water.
<b>polymethylene polyphenyl isocyanate (9016-87-9)</b>	
Persistence and degradability	not readily degradable in water.

**12.3. Bioaccumulative potential**

<b>Pandser PU Bond</b>	
Bioaccumulative potential	Not established.
<b>Polypropylene glycol (25322-69-4)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>di-isononyl phthalate (28553-12-0)</b>	
BCF - Fish [1]	< 3 l/kg (14 day(s), Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, Fresh weight)

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<b>di-isononyl phthalate (28553-12-0)</b>	
Partition coefficient n-octanol/water (Log Pow)	8.8 – 9.7 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
<b>4,4'-methylenediphenyl diisocyanate (101-68-8)</b>	
BCF - Fish [1]	92 – 200 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	4.5 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
<b>polymethylene polyphenyl isocyanate (9016-87-9)</b>	
BCF - Fish [1]	268.1 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

**12.4. Mobility in soil**

<b>di-isononyl phthalate (28553-12-0)</b>	
Surface tension	30.7 mN/m (20 °C, 100 vol %, Wilhelmy plate method: surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	6 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Adsorbs into the soil.
<b>4,4'-methylenediphenyl diisocyanate (101-68-8)</b>	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.5 – 5.5 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Adsorbs into the soil.
<b>polymethylene polyphenyl isocyanate (9016-87-9)</b>	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Adsorbs into the soil.

**12.5. Results of PBT and vPvB assessment**

<b>Pandser PU Bond</b>	
The product does not meet the PBT and vPvB classification criteria	
<b>Component</b>	
di-isononyl phthalate (28553-12-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
4,4'-methylenediphenyl diisocyanate (101-68-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
polymethylene polyphenyl isocyanate (9016-87-9)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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According to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**12.6. Endocrine disrupting properties**

No additional information available

**12.7. Other adverse effects**

Additional information : Avoid release to the environment.

**SECTION 13: Disposal considerations**
**13.1. Waste treatment methods**

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecological information : Avoid release to the environment.

European List of Waste (LoW, EC 2000/532) : 08 04 09\* - waste adhesives and sealants containing organic solvents or other dangerous substances  
15 01 10\* - packaging containing residues of or contaminated by dangerous substances

**SECTION 14: Transport information**

In accordance with ADR / IMDG / IATA / ADN / RID /

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not regulated for transport				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

**14.6. Special precautions for user**
**Overland transport**

Not regulated

**Transport by sea**

Not regulated

**Air transport**

Not regulated

**Inland waterway transport**

Not regulated

**Rail transport**

Not regulated

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**14.7. Maritime transport in bulk according to IMO instruments**

Not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU-Regulations****REACH Annex XVII (Restriction List)****EU restriction list (REACH Annex XVII)**

Reference code	Applicable on	Entry title or description
3(b)	Pandser PU Bond ; Polypropylene glycol ; polymethylene polyphenyl isocyanate	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
52(a)	di-isononyl phthalate	Phthalates: Di-"isononyl" phthalate (DINP)
56.	4,4'-methylenediphenyl diisocyanate	Methylenediphenyl diisocyanate (MDI)
56(a)	4,4'-methylenediphenyl diisocyanate	Methylenediphenyl diisocyanate (MDI) isomers: 4,4'-Methylenediphenyl diisocyanate
74.	4,4'-methylenediphenyl diisocyanate	Diisocyanates, O = C=N-R-N = C=O, with R an aliphatic or aromatic hydrocarbon unit of unspecified length

**REACH Annex XIV (Authorisation List)**

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

**REACH Candidate List (SVHC)**

Contains no substance(s) listed on the REACH Candidate List

**PIC Regulation (Prior Informed Consent)**

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

**POP Regulation (Persistent Organic Pollutants)**

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

**Ozone Regulation (1005/2009)**

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

**VOC Directive (2004/42)**

VOC content : ≤ 0.15 %

**Explosives Precursors Regulation (2019/1148)**

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

**Drug Precursors Regulation (273/2004)**

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

**15.1.2. National regulations**

No additional information available

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

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According to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

**SECTION 16: Other information**
**Indication of changes:**

Physical and chemical properties. Composition/information on ingredients.

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

**Full text of H- and EUH-statements:**

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

Acute Tox. 4 (Inhalation:dust,mist)	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Carc. 2	H351	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.





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