



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008  
This SDS is for generic information purposes and does not reflect required country specific information for OEL

**ZWALUW POLYFLEX 422 WHITE**  
Supersedes Date: 26-Apr-2022

Revision date 17-Apr-2022  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product Name** ZWALUW POLYFLEX 422 WHITE  
**Pure substance/mixture** Mixture

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

**Recommended use** Sealant  
**Uses advised against** None known.

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

**Company Name**  
Bostik SA  
420 rue d'Estienne d'Orves  
92700 Colombes  
FRANCE  
Tel: +33 (0)1 49 00 90 00

**E-mail address** SDS.box-EU@bostik.com

### 1.4. Emergency telephone number

**Emergency Telephone** 112

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

### 2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

#### Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

#### EU Specific Hazard Statements

EUH208 - Contains Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate. May produce an allergic reaction  
EUH204 - Contains isocyanates. May produce an allergic reaction  
EUH210 - Safety data sheet available on request  
EUH212 - Warning! Hazardous respirable dust may be formed when used. Do not breathe dust

#### Special provisions concerning the labelling of certain mixtures

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

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## 2.3. Other hazards

Causes mild skin irritation.

## PBT & vPvB

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

Chemical name	EC No.	CAS No.	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	REACH registration number
Xylene (reaction mass of ethylbenzene and xylene) 5 - <10 %	905-588-0	RR-45541-4	STOT SE 3 (H335) STOT RE 2 (H373) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Flam Liq. 3 (H226)	STOT RE 2 :: C>=10%	-	-	01-2119488216-32-xxxx
Titanium dioxide 1 - <5 %	236-675-5	13463-67-7	[C]	-	-	-	01-2119489379-17-XXXX
4,4'-Methylenediphenyl diisocyanate 0.01 - <0.1 %	202-966-0	101-68-8	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Carc. 2 (H351) STOT SE 3 (H335) STOT RE 2 (H373)	STOT SE 3 :: C>=5% Skin Irrit. 2 :: C>=5% Eye Irrit. 2 :: C>=5% Resp. Sens. 1 :: C>=0.1%	-	-	01-2119457014-47-XXXX
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate 0.01 - <0.1 %	915-687-0	1065336-91-5	Skin Sens. 1A (H317) Repr. 2 (H361f) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	1	1	01-2119491304-40-XXXX
m-tolylidene diisocyanate 0.01 - <0.1 %	247-722-4	26471-62-5	Acute Tox. 1 (H330) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Carc. 2 (H351) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	Resp. Sens. 1 :: C>=0.1%	-	-	01-2119454791-34-XXXX

Substances identified by a number starting "RR-" in the CAS-field are substances for which there is no CAS# used in EU and we use an internal numbering system to track within our SDS software

### Air contaminants formed when using the substance or mixture as intended

Chemical name	EC No	CAS No	Classification according to Regulation (EC) No.	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	REACH registration number
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			1272/2008 [CLP]				
Methyl alcohol 67-56-1	200-659-6	67-56-1	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) Flam. Liq. 2 (H225)	STOT SE 1 :: C <sub>2</sub> ≥10% STOT SE 2 :: 3%≤C <sub>2</sub> <10%	-	-	01-2119392409 -28-XXXX

**Full text of H- and EUH-phrases: see section 16**

*Classification according to Regulation (EC) No. 1272/2008 [CLP] - Notes*

*[C] - Components with occupational exposure limits and/or biological occupational exposure limits requiring monitoring*

## Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	EC No	CAS No	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Xylene (reaction mass of ethylbenzene and xylene)	905-588-0	RR-45541-4	3523	1999	-	19	-
Titanium dioxide	236-675-5	13463-67-7	-	-	-	-	-
4,4'-Methylenediphenyl diisocyanate	202-966-0	101-68-8	-	-	1.5	-	-
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4- piperidyl sebacate	915-687-0	1065336-91-5	3230	3180	-	-	-
m-tolylidene diisocyanate	247-722-4	26471-62-5	-	-	0.099	0.107	-

This product does not contain candidate substances of very high concern at a concentration ≥0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## Notes

See section 16 for more information

Chemical name	Notes
Titanium dioxide - 13463-67-7	V,W,10
4,4'-Methylenediphenyl diisocyanate - 101-68-8	C,2
m-tolylidene diisocyanate - 26471-62-5	C

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General advice

If medical advice is needed, have product container or label at hand. Show this safety

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	data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.
<b>Ingestion</b>	Clean mouth with water. Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person.

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

**Symptoms** Prolonged contact may cause redness and irritation.

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

**Note to doctors** Treat symptomatically.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

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

**Specific hazards arising from the chemical** No information available.

**Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Hydrocarbons. Nitrogen oxides (NO<sub>x</sub>). Aldehydes. Hydrochloric Acid. Sulphur oxides.

### **5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **SECTION 6: Accidental release measures**

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

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

**Methods for containment** Do not scatter spilled material with high pressure water streams.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

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## 6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

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

Storage Conditions Protect from moisture.

Recommended storage temperature Keep at temperatures between 10 and 35 °C.

### 7.3. Specific end use(s)

Specific use(s)  
Sealant.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information Observe technical data sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Exposure Limits This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product

**Only European Community Occupational Exposure Limits will be shown in this document. Please refer to regional SDS for further information.**

Chemical name	European Union
Xylene (reaction mass of ethylbenzene and xylene) RR-45541-4	TWA: 50 ppm TWA: 221 mg/m <sup>3</sup> STEL: 100 ppm STEL: 442 mg/m <sup>3</sup> S*

Derived No Effect Level (DNEL) No information available

Derived No Effect Level (DNEL)			
Xylene (reaction mass of ethylbenzene and xylene) (RR-45541-4)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	221 mg/m <sup>3</sup>	
worker Long term Local health effects	Inhalation	221 mg/m <sup>3</sup>	
worker Short term Local health effects	Inhalation	442 mg/m <sup>3</sup>	
worker Long term	Dermal	212 mg/kg bw/d	

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Systemic health effects			
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<b>Titanium dioxide (13463-67-7)</b>			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Local health effects	Inhalation	10 mg/m <sup>3</sup>	

<b>4,4'-Methylenediphenyl diisocyanate (101-68-8)</b>			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Short term Systemic health effects	Dermal	50 mg/kg bw/d	
worker Short term Systemic health effects	Inhalation	0.1 mg/m <sup>3</sup>	
worker Short term Local health effects	Dermal	28700 µg/cm <sup>2</sup>	
worker Short term Local health effects	Inhalation	0.1 mg/m <sup>3</sup>	
worker Long term Systemic health effects	Inhalation	0.05 mg/m <sup>3</sup>	
worker Long term Local health effects	Inhalation	0.05 mg/m <sup>3</sup>	

<b>Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate (1065336-91-5)</b>			
<b>m-tolylidene diisocyanate (26471-62-5)</b>			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	0.035 mg/m <sup>3</sup>	
worker Short term Systemic health effects	Inhalation	0.14 mg/m <sup>3</sup>	
worker Long term Local health effects	Inhalation	0.035 mg/m <sup>3</sup>	
worker Short term Local health effects	Inhalation	0.14 mg/m <sup>3</sup>	

<b>Derived No Effect Level (DNEL)</b>			
<b>Xylene (reaction mass of ethylbenzene and xylene) (RR-45541-4)</b>			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	65.3 mg/m <sup>3</sup>	
Consumer Short term Systemic health effects	Inhalation	260 mg/m <sup>3</sup>	
Consumer	Inhalation	65.3 mg/m <sup>3</sup>	

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Long term Local health effects			
Consumer Short term Local health effects	Inhalation	260 mg/m <sup>3</sup>	
Consumer Long term Systemic health effects	Dermal	125 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	12.5 mg/kg bw/d	

<b>Titanium dioxide (13463-67-7)</b>			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Oral	700 mg/kg bw/d	

<b>4,4'-Methylenediphenyl diisocyanate (101-68-8)</b>			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Short term Systemic health effects	Dermal	25 mg/kg bw/d	
Consumer Short term Systemic health effects	Inhalation	0.05 mg/m <sup>3</sup>	
Consumer Short term Systemic health effects	Oral	20 mg/kg bw/d	
Consumer Short term Local health effects	Dermal	17200 µg/cm <sup>2</sup>	
Consumer Short term Local health effects	Inhalation	0.05 mg/m <sup>3</sup>	
Consumer Long term Systemic health effects	Inhalation	0.025 mg/m <sup>3</sup>	
Consumer Long term Local health effects	Inhalation	0.025 mg/m <sup>3</sup>	

**Predicted No Effect Concentration (PNEC)** No information available.

<b>Predicted No Effect Concentration (PNEC)</b>	
<b>Xylene (reaction mass of ethylbenzene and xylene) (RR-45541-4)</b>	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.327 mg/l
Marine water	0.327 mg/l
Microorganisms in sewage treatment	6.58 mg/l
Freshwater sediment	12.46 mg/kg dry weight
Soil	2.31 mg/kg dry weight

<b>Titanium dioxide (13463-67-7)</b>	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Marine water	0.0184 mg/l
Freshwater sediment	1000 mg/kg
Freshwater	0.184 mg/l

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Marine sediment	100 mg/kg
Soil	100 mg/kg
Microorganisms in sewage treatment	100 mg/l
Freshwater - intermittent	0.193 mg/l

<b>4,4'-Methylenediphenyl diisocyanate (101-68-8)</b>	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	1 mg/l
Marine water	0.1 mg/l
Soil	1 mg/kg dry weight
Sewage treatment plant	1 mg/l
Freshwater - intermittent	10 mg/l

<b>m-tolylidene diisocyanate (26471-62-5)</b>	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.013 mg/l
Marine water	0.00125 mg/l
Microorganisms in sewage treatment	>1 mg/l
Soil	>1 mg/kg dry weight

## 8.2. Exposure controls

<b>Engineering controls</b>	Ensure adequate ventilation, especially in confined areas.
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.
<b>Hand protection</b>	Nitrile rubber. Butyl rubber. Glove thickness > 0.4 mm. The breakthrough time of the gloves depends on the material and the thickness as well as the temperature. The breakthrough time for the mentioned glove material is in general greater than 60 min. Gloves must conform to standard EN 374
<b>Skin and body protection</b>	Suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Recommended filter type:</b>	Wear a respirator conforming to EN 140 with Type A/P2 filter or better. Organic gases and vapours filter conforming to EN 14387.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

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

<b>Physical state</b>	Solid
<b>Appearance</b>	Paste
<b>Colour</b>	White
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	No information available

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>Melting point / freezing point</b>	No data available	None known
<b>Initial boiling point and boiling range</b>	No data available	Not applicable
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Flash point</b>	> 61 °C	
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>pH</b>	No data available	Not applicable
<b>pH (as aqueous solution)</b>	No data available	None known
<b>Kinematic viscosity</b>	600000 mm <sup>2</sup> /s	



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Dynamic viscosity	600000 mPa s	
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	No data available	None known
Bulk Density	No data available	
Density	1.23	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

## 9.2. Other information

### VOC Content (%)

9.2.1. Information with regards to physical hazard classes  
Not applicable

9.2.2. Other safety characteristics  
No information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity No information available.

### 10.2. Chemical stability

Stability Stable under normal conditions.

### Explosion data

Sensitivity to mechanical impact None.  
Sensitivity to static discharge None.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

### 10.4. Conditions to avoid

Conditions to avoid Product cures with moisture. Protect from moisture.

### 10.5. Incompatible materials

Incompatible materials None known based on information supplied.

### 10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions. Stable under recommended storage conditions.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Information on likely routes of exposure

#### Product Information

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<b>Inhalation</b>	Based on available data, the classification criteria are not met.
<b>Eye contact</b>	Based on available data, the classification criteria are not met.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes mild skin irritation.
<b>Ingestion</b>	Based on available data, the classification criteria are not met.

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

**Symptoms** Prolonged contact may cause redness and irritation.

## Acute toxicity

Based on available data, the classification criteria are not met

## Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (dermal)</b>	11,095.90 mg/kg
<b>ATEmix (inhalation-vapour)</b>	265.70 mg/l

## Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Xylene (reaction mass of ethylbenzene and xylene)	=3500 mg/kg (Rattus)	>10000 mg/kg (Oryctolagus cuniculus)	=>47635 mg/L (Rattus) 4 h = >5000 ppm (Rattus) 4 h
Titanium dioxide	>10000 mg/kg (Rattus)	LD50 > 5000 mg/Kg	= 5.09 mg/L (Rattus) 4 h
4,4'-Methylenediphenyl diisocyanate	=31600 mg/kg (Rattus) = 9200 mg/kg (Rattus)	LD 50 > 9400 mg/kg (Oryctolagus cuniculus) OECD 402	=1.5 mg/L (Rattus) 4 h
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	LD50 = 3230 mg/Kg (Rat) OECD 401	LD50 >3170 mg/Kg (Rat)	-
m-tolylidene diisocyanate	=3060 mg/kg (Rattus)	= 10000 mg/kg (Oryctolagus cuniculus)	=0.107 mg/L (Rattus) 4 h (Vapour)

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Classification based on data available for ingredients. May cause skin irritation.

Titanium dioxide (13463-67-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal			Non-irritant

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal			Irritant

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

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Titanium dioxide (13463-67-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye			Non-irritant

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	0.1 mL	24 hours	Mild eye irritation

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

Titanium dioxide (13463-67-7)

Method	Species	Exposure route	Results
OECD Test No. 406: Skin Sensitisation	Guinea pig	Dermal	Not a skin sensitiser
OECD Test No. 429: Skin Sensitisation: Local Lymph Node Assay	Mouse	Dermal	Not a skin sensitiser

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Exposure route	Results
OECD GD 39	Rat	Inhalation	Sensitizing
OECD Test No. 406: Skin Sensitisation	Guinea pig	Dermal	Sensitizing

m-tolylidene diisocyanate (26471-62-5)

Method	Species	Exposure route	Results
OECD Test No. 429: Skin Sensitisation: Local Lymph Node Assay	Mouse	Dermal	sensitising

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

Component Information

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Results
Regulation (EC) No. 440/2008, Annex, B.13/14 (Ames test)	in vitro	Not mutagenic
OECD Test No. 474: Mammalian Erythrocyte Micronucleus Test	Rat, in vivo	Not mutagenic

**Carcinogenicity** Based on available data, the classification criteria are not met.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component Information

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Results
OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies	Rat	Limited evidence of a carcinogenic effect

Chemical name	European Union
4,4'-Methylenediphenyl diisocyanate	Carc. 2
m-tolylidene diisocyanate	Carc. 2

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**Reproductive toxicity** Based on available data, the classification criteria are not met.

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Results
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	LOAEL 9 mg/m <sup>3</sup>

**STOT - single exposure** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rat, female	Inhalation, Dust/Mist	0,0.2,0.7, 2.1 mg/m <sup>3</sup>	2 Years	Category 2

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 11.2. Information on other hazards

### 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

### 11.2.2. Other information

**Other adverse effects** No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea	M-Factor	M-Factor (long-term)
Xylene (reaction mass of ethylbenzene and xylene) RR-45541-4	EC50 (72hr) 2.2 mg/l (Selenastrum capricornutum)	LC50(96h) 2.6 mg/l (Oncorhynchus mykiss-OECD 203)	EC50 = 0.0084 mg/L 24 h	LC50(24h) 1 mg/l (Daphnia magna-OECD 202)		
Titanium dioxide 13463-67-7	LC50 (96h) >10000 mg/l (Cyprinodon variegatus) OECD 203	-	-	-		
4,4'-Methylenediphenyl diisocyanate 101-68-8	ErC50 (72h) >1640 mg/L Algae (scenedesmus subspicatus) (OECD 201)	>1000 mg/l (Danio rerio)	-	EC50 (24H) >1000 mg/L Daphnia magna		
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-	EC50 (72 h) 1,68 mg/l (growth rate), Desmodesmus subspicatus	LC50 (96 h) 0,9 mg/l, Brachydanio rerio (OECD 203)	-	-	1	1

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4-piperidyl sebacate 1065336-91-5	(OECD 201)					
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## 12.2. Persistence and degradability

**Persistence and degradability** No information available.

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Exposure time	Value	Results
OECD Test No. 302C: Inherent Biodegradability: Modified MITI Test (II)	28 days	0% biodegradation	Not readily biodegradable

## 12.3. Bioaccumulative potential

**Bioaccumulation**

### Component Information

Chemical name	Partition coefficient
Xylene (reaction mass of ethylbenzene and xylene)	3.15
4,4'-Methylenediphenyl diisocyanate	4.51
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	2.77
m-tolylidene diisocyanate	3.43

## 12.4. Mobility in soil

**Mobility in soil** No information available.

## 12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment**

Chemical name	PBT and vPvB assessment
Xylene (reaction mass of ethylbenzene and xylene)	The substance is not PBT / vPvB
Titanium dioxide	The substance is not PBT / vPvB PBT assessment does not apply
4,4'-Methylenediphenyl diisocyanate	The substance is not PBT / vPvB
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	The substance is not PBT / vPvB
m-tolylidene diisocyanate	The substance is not PBT / vPvB

## 12.6. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

## 12.7. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

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European Waste Catalogue	08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09
Other information	Waste codes should be assigned by the user based on the application for which the product was used.

## SECTION 14: Transport information

### Land transport (ADR/RID)

14.1 UN number or ID number	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Provisions	None

### IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Marine pollutant	NP
14.6 Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	Not applicable

### Air transport (ICAO-TI / IATA-DGR)

14.1 UN number or ID number	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Provisions	None

## Section 15: REGULATORY INFORMATION

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

#### European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Check whether measures in accordance with Directive 94/33/EC for the protection of young people at work must be taken.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

#### Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)

##### SVHC: Substances of Very High Concern for Authorisation:

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

##### EU-REACH (1907/2006) - Annex XVII - Substances subject to Restriction

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Chemical name	CAS No	Restricted substance per REACH Annex XVII
Diisocyanates	--	74

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## Substance subject to authorisation per REACH Annex XIV

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

## Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

## Persistent Organic Pollutants

Not applicable

## National regulations

### France

#### Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Xylene (reaction mass of ethylbenzene and xylene) RR-45541-4	RG 4bis, RG 84
4,4'-Methylenediphenyl diisocyanate 101-68-8	RG 62
m-tolylidene diisocyanate 26471-62-5	RG 62

### Germany

#### Ordinance on Industrial Safety and Health - Germany - BetrSichV

No flammable liquids in accordance with BetrSichV

**Water hazard class (WGK)** obviously hazardous to water (WGK 2)

### Netherlands

#### List of Carcinogenic, mutagenic and reproductive toxin substances in accordance with Inspectorate SZW (Netherlands)

Chemical name	Netherlands - List of Carcinogens
Xylene (reaction mass of ethylbenzene and xylene) RR-45541-4	Development (Category 2)

### Denmark

**Registration number(s) (P-no.)** No information available

### Norway

**Registration number(s) (PRN-no.)** No information available

## 15.2. Chemical safety assessment

Chemical Safety Assessments have been carried out by the Reach registrants for substances registered at >10 tpa. No Chemical Safety Assessment has been carried out for this mixture.

## SECTION 16: Other information

### Key or legend to abbreviations and acronyms used in the safety data sheet

### Full text of H-Statements referred to under section 3

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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  
H330 - Fatal if inhaled  
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  
H361f - Suspected of damaging fertility  
H373 - May cause damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects  
H412 - Harmful to aquatic life with long lasting effects

## Notes assigned to an entry

**Note 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

**Note V:** If the substance is to be placed on the market as fibres (with diameter < 3 µm, length > 5 µm and aspect ratio ≥ 3:1) or particles of the substance fulfilling the WHO fibre criteria or as particles with modified surface chemistry, their hazardous properties must be evaluated in accordance with Title II of this Regulation, to assess whether a higher category (Carc. 1B or 1A) and/or additional routes of exposure (oral or dermal) should be applied

**Note W:** It has been observed that the carcinogenic hazard of this substance arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung

## Notes relating to the classification and labelling of mixtures

**Note 2:** The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture

**Note 10:** The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter ≤ 10 µm

SVHC: Substances of Very High Concern for Authorisation:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals

vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

STOT RE: Specific target organ toxicity - Repeated exposure

STOT SE: Specific target organ toxicity - Single exposure

EWC: European Waste Catalogue

LOW: List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)

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

IATA: International Air Transport Association

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

IMDG: International Maritime Dangerous Goods

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

## Legend SECTION 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
AGW	Occupational exposure limit value	BGW	Biological limit value
Ceiling	Maximum limit value	*	Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method



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mutagenicity	Calculation method
Carcinogenicity	On basis of test data
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

## Key literature references and sources for data used to compile the SDS

European Food Safety Authority (EFSA)  
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA\_RAC)  
European Chemicals Agency (ECHA) (ECHA\_API)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
International Uniform Chemical Information Database (IUCLID)  
National Institute of Technology and Evaluation (NITE)  
NIOSH (National Institute for Occupational Safety and Health)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set

**Prepared By** Product Safety & Regulatory Affairs  
**Revision date** 17-Apr-2022  
**Revision note** SDS sections updated 2 3 8 11 12 16  
**Training Advice** AS FROM 24 AUGUST 2023 ADEQUATE TRAINING IS REQUIRED BEFORE INDUSTRIAL OR PROFESSIONAL USE  
**Further information** No information available

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**