



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: REACH Regulation (EC) No 1907/2006, as retained in UK law by (SI 2019/758 as amended)

**BOSTIK PRO SEALANT PU91 CONSTRUCTION
POLYURETHANE BLACK**
Supersedes date 21-Nov-2023

Revision date 08-Jul-2024

Revision Number 3.02

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name BOSTIK PRO SEALANT PU91 CONSTRUCTION POLYURETHANE BLACK
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 Limited
Common Rd
ST16 3EH
Stafford UK
Tel: +44 (1785) 27 26 25
Fax: +44 (1785) 25 72 36

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

1.4. Emergency telephone number

United Kingdom Bostik: +44 (1785) 272650 (9am to 5pm Mon-Fri)
NHS: 111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)

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]

Signal word

None

Hazard statements

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

EU Specific Hazard Statements

EUH210 - Safety data sheet available on request

EUH208 - Contains isocyanates & 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

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2.3. Other hazards

Causes mild skin irritation. Harmful to aquatic life.

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 (EU Index 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
Urea, N,N'-(methylenedi-4,1-p henylene)bis[N'-butyl-1 - <5 %	416-600-4	77703-56-1	Aquatic Chronic 4 (H413)	-	-	-	01-0000016345-72-xxxx
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics 1 - <2.5 %	920-107-4	RR-100255-7	Asp. Tox. 1 (H304) (EUH066)	-	-	-	01-2119453414-43-xxxx
N,N-dibenzyliden polyoxypropylene diamine (polymer) 1 - <2.5 %	-	136855-71-5	Skin Irrit. 2 (H315)	-	-	-	[7]
Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate 0.1 - <0.5 %	945-730-9	--	Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)	-	-	-	01-2119511174-52-xxxx
Aromatic Polyisocyanate 0.1 - <0.5 %	500-120-8	53317-61-6	Eye Irrit. 2 (H319) Skin Sens. 1 (H317)	-	-	-	[7]
Ethyl acetate 0.1 - <0.3 %	205-500-4 (607-022-00-5)	141-78-6	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225) (EUH066)	-	-	-	01-2119475103-46-XXXX
Isophorone diisocyanate 0.05 - <0.1 %	223-861-6 (615-008-00-5)	4098-71-9	Acute Tox. 1 (H330) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) STOT SE 3 (H335) Aquatic Chronic 2 (H411)	Resp. Sens. 1 :: C>=0.5% Skin Sens. 1 :: C>=0.5%	-	-	01-2119490408-31-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	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

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0.05 - <0.1 %							
Reaction product of Hexamethylene diisocyanate, oligomers with Mercaptopropyltrimethoxysilane 0.05 - <0.1 %	924-669-1	192526-20-8	Skin Sens. 1A (H317)	-	-	-	01-2120768758-32-XXXX

Substances identified by a number starting "RR-" in the CAS-field are substances for which the CAS# is not adopted in EU and we use an internal numbering system to track within our SDS software

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

The substance does not require registration according to REACH - Notes

NOTE [7] - No registration number is given for this substance because it is a polymer exempted from registration according to the provisions of Article 2(9) of REACH. All monomers or other substances within the polymer are registered or exempt from registration

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 (EU Index 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
Urea, N,N'-(methylenedi-4,1-phenylene)bis[N'-butyl-	416-600-4	77703-56-1	-	-	-	-	-
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics	920-107-4	RR-100255-7	-	-	-	-	-
Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate	945-730-9	--	-	-	-	-	-
Aromatic Polyisocyanate	500-120-8	53317-61-6	-	-	-	-	-
Ethyl acetate	205-500-4 (607-022-00-5)	141-78-6	-	-	-	14.4131	-
Isophorone diisocyanate	223-861-6 (615-008-00-5)	4098-71-9	-	-	0.031	-	-
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	-	-	-	-	-
Reaction product of Hexamethylene diisocyanate, oligomers	924-669-1	192526-20-8	-	-	-	-	-

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Chemical name	EC No (EU Index 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
with Mercaptopropyltrimethoxysilane							

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)

Notes

See section 16 for more information

Chemical name	Notes
Isophorone diisocyanate - 4098-71-9	2

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 data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. IF exposed or concerned: Get medical advice/attention.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.
Ingestion	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.
Effects of Exposure	No information available.

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

Note to doctors	No information available.
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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.

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5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon oxides. Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen cyanide. Isocyanates. Hydrochloric Acid.

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.

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.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product contains carbon black in a non-respirable form. Inhalation of carbon black is unlikely to occur from exposure to this product

Chemical name	European Union	United Kingdom
Limestone 1317-65-3	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Polyvinyl chloride 9002-86-2	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Carbon black 1333-86-4	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
Ethyl acetate 141-78-6	TWA: 734 mg/m ³ TWA: 200 ppm STEL: 1468 mg/m ³ STEL: 400 ppm	TWA: 734 mg/m ³ TWA: 200 ppm STEL: 1468 mg/m ³ STEL: 400 ppm
Isophorone diisocyanate 4098-71-9	TWA: 10 µg NCO / m ³ (2.9 ppb) STEL: 20 µg NCO / m ³ (5.8 ppb) Sk* +	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³ Sen+

Chemical name	European Union	Ireland	United Kingdom
Isophorone diisocyanate 4098-71-9	-	1 µmol/mol Creatinine (urine - urinary Diamine post task)	1 mmol isocyanate-derived diamine/mol creatinine - urine () - end of the period of exposure

Derived No Effect Level (DNEL) No information available

Derived No Effect Level (DNEL)

Urea, N,N'-(methylenedi-4,1-phenylene)bis[N'-butyl- (77703-56-1)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Long term Systemic health effects	Inhalation	49.37 mg/m ³	
Long term Systemic health effects	Dermal	140 mg/kg bw/d	

Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate (--)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	3.5 mg/m ³	
worker Short term Systemic health effects	Inhalation	28 mg/m ³	
worker Long term Systemic health effects	Dermal	0.5 mg/kg bw/d	
worker Short term Systemic health effects	Dermal	4 mg/kg bw/d	

Ethyl acetate (141-78-6)

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Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Dermal	63 mg/kg bw/d	
worker Short term Systemic health effects	Inhalation	1468 mg/m ³	
worker Long term Local health effects	Inhalation	734 mg/m ³	
worker Short term Local health effects	Inhalation	1468 mg/m ³	
worker Long term Systemic health effects	Inhalation	734 mg/m ³	

Isophorone diisocyanate (4098-71-9)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Short term Local health effects	Inhalation	0.0453 mg/m ³	
worker Long term Local health effects	Inhalation	0.0453 mg/m ³	

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)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	1.27 mg/m ³	
worker Systemic health effects Long term	Dermal	1.8 mg/kg	

Reaction product of Hexamethylene diisocyanate, oligomers with Mercaptopropyltrimethoxysilane (192526-20-8)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	1.7 mg/m ³	
worker Long term Systemic health effects	Dermal	4.7 mg/kg bw/d	

Derived No Effect Level (DNEL)

Urea, N,N"-(methylenedi-4,1-phenylene)bis[N'-butyl- (77703-56-1)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Long term Systemic health effects	Inhalation	7.4 mg/m ³	
Long term Systemic health effects	Dermal	50 mg/kg bw/d	
Long term	Oral	5 mg/kg bw/d	

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Systemic health effects			
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Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate (--)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	0.875 mg/m ³	
Consumer Short term Systemic health effects	Inhalation	7 mg/m ³	
Consumer Long term Systemic health effects	Dermal	0.25 mg/kg bw/d	
Consumer Short term Systemic health effects	Dermal	2 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	0.25 mg/kg bw/d	
Consumer Short term Systemic health effects	Oral	2 mg/kg bw/d	

Ethyl acetate (141-78-6)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Oral	4.5 mg/kg bw/d	
Consumer Long term Systemic health effects	Dermal	37 mg/kg bw/d	
Consumer Short term Systemic health effects	Inhalation	734 mg/m ³	
Consumer Long term Local health effects	Inhalation	367 mg/m ³	
Consumer Short term Local health effects	Inhalation	734 mg/m ³	
Consumer Long term Systemic health effects	Inhalation	367 mg/m ³	

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)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	0.31 mg/m ³	
Consumer Long term Systemic health effects	Dermal	0.9 mg/kg	
Consumer	Oral	0.18 mg/kg	

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Long term Systemic health effects			
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Reaction product of Hexamethylene diisocyanate, oligomers with Mercaptopropyltrimethoxysilane (192526-20-8)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	0.3 mg/m ³	
Consumer Long term Systemic health effects	Dermal	1.7 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	0.2 mg/kg bw/d	

Predicted No Effect Concentration (PNEC)

Predicted No Effect Concentration (PNEC)	
Urea, N,N''-(methylenedi-4,1-phenylene)bis[N'-butyl- (77703-56-1)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.1 mg/l
Marine water	0.01 mg/l
Sewage treatment plant	10 mg/l
Freshwater sediment	76.36 mg/kg dry weight
Marine sediment	7.636 mg/kg dry weight
Soil	15.15 mg/kg dry weight

Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate (--)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.002 mg/l
Marine water	0 mg/l
Freshwater - intermittent	0.005 mg/l
Marine water - intermittent	0.001 mg/l
Freshwater sediment	3.43 mg/kg dry weight
Marine sediment	0.343 mg/kg dry weight
Microorganisms in sewage treatment	No hazard identified
Soil	0.68 mg/kg dry weight

Ethyl acetate (141-78-6)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.24 mg/l
Marine water	0.024 mg/l
Freshwater sediment	1.15 mg/kg
Marine sediment	0.115 mg/kg
Soil	0.148 mg/kg
Microorganisms in sewage treatment	650 mg/l

Isophorone diisocyanate (4098-71-9)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	60 µg/l
Marine water	6 µg/l
Freshwater - intermittent	40 µg/l
Freshwater sediment	218.9 mg/kg dry weight
Marine sediment	21.89 mg/kg dry weight
Soil	44.01 mg/kg dry weight
Microorganisms in sewage treatment	10 mg/l

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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)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.0022 mg/l
Marine water	0.00022 mg/l
Freshwater - intermittent	0.009 mg/l
Freshwater sediment	1.05 mg/kg
Marine sediment	0.11 mg/kg
Soil	0.21 mg/kg
Sewage treatment plant	1 mg/l

Reaction product of Hexamethylene diisocyanate, oligomers with Mercaptopropyltrimethoxysilane (192526-20-8)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.1 mg/l
Marine water	0.01 mg/l
Sewage treatment plant	100 mg/l
Freshwater sediment	0.428 mg/kg dry weight
Marine sediment	0.043 mg/kg dry weight

8.2. Exposure controls

Engineering controls	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.
Hand protection	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
Skin and body protection	Suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Recommended filter type:	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

Physical state	Solid
Appearance	Paste
Colour	Black
Odour	Characteristic.

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

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Kinematic viscosity	approx 465000 mm ² /s	
Dynamic viscosity	approx 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	1.29	
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

Solid content (%)	No information available	
VOC content		No data available

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.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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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.
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10.4. Conditions to avoid

Conditions to avoid	Product cures with moisture. Protect from moisture.
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10.5. Incompatible materials

Incompatible materials	None known based on information supplied.
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10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal use conditions. Stable under recommended storage conditions.
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SECTION 11: Toxicological information

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

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Information on likely routes of exposure

Product Information

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

Numerical measures of toxicity

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

ATEmix (oral)	>2000 mg/kg
ATEmix (dermal)	9,303.50 mg/kg
ATEmix (inhalation-gas)	>20000 ppm
ATEmix (inhalation-dust/mist)	>5 mg/l
ATEmix (inhalation-vapour)	>20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Urea, N,N''-(methylenedi-4,1-phenylene)bis[N'-butyl-	>2000 mg/Kg (Rattus) (OECD 401)	>2000 mg/Kg (Rattus) (OECD 402)	-
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics	LD50 >5000 mg/Kg (Rattus) (OECD 401)	LD50 >5000 mg/Kg (Oryctolagus cuniculus) (OECD 402)	LC50 >5000 mg/m ³ (OECD 403)
Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate	>5000 mg/Kg (Rattus)	>2000 mg/Kg (Rattus) (OECD 402)	-
Aromatic Polyisocyanate	LD50 >2000 mg/Kg (Rattus)	-	LC50 >3.820 mg/L (Rattus) 4h dust/mist
Ethyl acetate	=5620 mg/kg (Rattus)	> 18000 mg/kg (Oryctolagus cuniculus) > 20 mL/kg (Oryctolagus cuniculus)	LC0 29.3 mg/l air
Isophorone diisocyanate	=4814 mg/kg (Rattus)	LD50 > 2000 mg/kg	=0.135 mg/L (Rattus) 4 h
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-pi peridyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperi dyl sebacate	LD50 = 3230 mg/Kg (Rattus) (OECD 401)	LD50 >3170 mg/Kg (Rattus) (OECD 402)	-
Reaction product of Hexamethylene diisocyanate,	>2000 mg/Kg (Rattus) (OECD 423)	>2000 mg/Kg (Rattus) (OECD 402)	-

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oligomers with Mercaptopropyltrimethoxysilane			
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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. Causes mild skin irritation.

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

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

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

Component Information
Ethyl acetate (141-78-6)

Method	Species	Results
OECD Test No. 474: Mammalian Erythrocyte Micronucleus Test	in vivo Hamster	Negative
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro Salmonella typhimurium	Negative
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro Hamster Ovary	Negative

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

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

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.

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

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Harmful to aquatic life.

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Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea	M-Factor	M-Factor (long-term)
Urea, N,N'-(methylenedi-4,1-phenylene)bis[N'-butyl-77703-56-1	-	LC50 (96h) >120 mg/L Danio rerio (OECD 203)	-	EC50 (48h) >100 mg/L Daphnia magna (OECD 202)		
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics RR-100255-7	ErL50 (72h) > 10000 mg/l (Skeletonema costatum -ISO 10253)	LL50 (96h) > 1028 mg/l (Scophthalmus maximus -OECD 203)	-	LL50 (48h) > 3193 mg/l (Acartia tonsa - ISO 14669)		
Ethyl acetate 141-78-6	EC50: =3300mg/L (48h, Desmodesmus subspicatus)	LC50: =484mg/L (96h, Oncorhynchus mykiss) LC50: 352 - 500mg/L (96h, Oncorhynchus mykiss) LC50: 220 - 250mg/L (96h, Pimephales promelas)	EC50 = 1180 mg/L 5 min EC50 = 1500 mg/L 15 min EC50 = 5870 mg/L 15 min EC50 = 7400 mg/L 2 h	EC50: =560mg/L (48h, Daphnia magna)		
Isophorone diisocyanate 4098-71-9	EC50: =118.7mg/L (72h, Desmodesmus subspicatus)	LC50: =1.8mg/L (48h, Leuciscus idus)	-	EC50: =83.7mg/L (24h, Daphnia magna)		
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	EC50 (72h): 1.68 mg/l (Desmodesmus subspicatus) OECD 201	LC50 (96h): 0.9 mg/L (Brachydanio rerio) OECD 203	EC20 (3h)>= 100 mg/l OECD 209	-	1	1
Reaction product of Hexamethylene diisocyanate, oligomers with Mercaptopropyltrimethoxysilane 192526-20-8	EC50 (72h) >100 mg/L Algae (Raphidocelis subcapitata) (OECD 201)	LC50 (96h)>100 mg/L Fish (Brachydanio rerio) (OECD 203)	-	EC50 (48h) >100 mg/L Daphnia magna (OECD 202)		

12.2. Persistence and degradability

Persistence and degradability No information available.

Urea, N,N'-(methylenedi-4,1-phenylene)bis[N'-butyl- (77703-56-1)

Method	Exposure time	Value	Results
OECD Guideline 310	28 days	0.4%	Not readily biodegradable
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	11%	Not readily biodegradable

Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate (--)

Method	Exposure time	Value	Results
OECD Test No. 301C: Ready	28 days	75%	Readily biodegradable

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Biodegradability: Modified MITI Test (I) (TG 301 C)			
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Aromatic Polyisocyanate (53317-61-6)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)		biodegradation	34 % Not readily biodegradable

Isophorone diisocyanate (4098-71-9)

Method	Exposure time	Value	Results
EU C.4-D	28 days	0%	Not readily biodegradable

Reaction product of Hexamethylene diisocyanate, oligomers with Mercaptopropyltrimethoxysilane (192526-20-8)

Method	Exposure time	Value	Results
OECD Test No. 301C: Ready Biodegradability: Modified MITI Test (I) (TG 301 C)	28 days	3.85%	Not readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Urea, N,N''-(methylenedi-4,1-phenylene)bis[N'-butyl-	5.5
Reaction mass of 3-methylphenyl diphenyl phosphate, 4-methylphenyl diphenyl phosphate, bis(3-methylphenyl) phenyl phosphate, 3-methylphenyl 4-methylphenyl phenyl phosphate and triphenyl phosphate	4.5
Ethyl acetate	0.73
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

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics	The substance is not PBT / vPvB
Ethyl acetate	The substance is not PBT / vPvB
Isophorone 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

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

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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.
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 UN proper shipping name	-
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN 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 precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	
Transport in bulk according to Annex II of MARPOL and the IBC Code	Not applicable

Air transport (ICAO-TI / IATA-DGR)

14.1 UN number or ID number	Not regulated
14.2 UN 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 precautions for user	
Special Provisions	None

Section 15: REGULATORY INFORMATION

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

European Union

Registration, Evaluation, Authorisation, 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.

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1907/2006 (REACH), Article 59)

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

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

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)

Export Notification requirements

This product does not contain substances which are regulated pursuant to Regulation (EC) No. 649/2012 of the European parliament and of the council concerning the export and import of dangerous chemicals above the level that triggers a labeling obligation under Regulation (EC) No 1272/2008. Therefore this product is not subject to prior informed consent notification.

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

Not applicable

Persistent Organic Pollutants

Not applicable

REGULATION (EU) 2019/1148 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2019 on the marketing and use of explosives precursors

Not applicable

National regulations

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

H225 - Highly flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H330 - Fatal 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
H361f - Suspected of damaging fertility
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects
H413 - May cause long lasting harmful effects to aquatic life

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

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Legend

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value
Sk*	Skin designation
SVHC	Substance(s) of Very High Concern
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
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
RID	Regulations concerning the International Transport of Dangerous Goods by Rail

Key literature references and sources for data

No information available

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Indication of changes

Revision note SDS sections updated, 2.
Training Advice AS FROM 24 AUGUST 2023 ADEQUATE TRAINING IS REQUIRED BEFORE INDUSTRIAL OR PROFESSIONAL USE For further information, please contact:
<https://www.safeusediisocyanates.eu/>
Further information No information available

This SDS complies with the requirements of UK REACH Regulations SI 2019/758 (as amended)

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