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

1.1. Product identifier

PC 31-020

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

Identified Uses

SU19	Building and construction work
PC1	Adhesives, sealants
ERC10a	Wide dispersive outdoor use of long-life articles and materials with low release
ERC11a	Wide dispersive indoor use of long-life articles and materials with low release
AC13-2	Plastic products: Flooring
PROC10	Roller application or brushing

Uses advised against

SU0	Other: none

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Melos GmbH
Bismarckstrasse 4-10
49324 Melle

Telephone no.	+49 5422 9447-0
Fax no.	+49 5422 5981
Information provided by / telephone	HAZMAT Officer
E-mail address of person responsible for this SDS	sicherheit@melos-gmbh.com

1.4. Emergency telephone number

NCEC Emergency Telephone Number : +44 1865 407333 (english)
NCEC Emergency Telephone Number Germany: +49 89 220 61012 (german, english)
NCEC Emergency Telephone Number Americas: +1 202 464 2554 (english)

SECTION 2: Hazards identification ***

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

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

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H332	Harmful if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264.1	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P405	Store locked up.
P501.1	Dispose of contents/container to industrial incineration plant.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains ***	4,4'-Methylenediphenyl diisocyanate, oligomers; Higher oligomers of 1,2-propanediol, propoxylated and methylenediphenyl diisocyanate homopolymer; Formaldehyde, oligomeric reaction products with aniline and phosgene; 4,4'-Methylendiphenyle diisocyanate; o-(p-isocyanatobenzyl)phenyl isocyanate

Supplemental information

EUH204	Contains isocyanates. May produce an allergic reaction.

Labelling according to annex XVII to regulation (EU) No 1907/2006

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

2.3. Other hazards

May cause sensitization by skin contact.
The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

Chemical characterization

PU-binder

Hazardous ingredients ***

Higher oligomers of 1,2-propanediol, propoxylated and methylenediphenyl diisocyanate homopolymer

EINECS no.	939-190-3				
Registration no.	EXEMPTED ACC. REACH, ART. 2,9 (POLYMER)				
Concentration	>=	54	<	72	%

Classification (Regulation (EC) No. 1272/2008)

Skin Irrit. 2	H315	
Skin Sens. 1	H317	
Eye Irrit. 2	H319	
Acute Tox. 4	H332	
Resp. Sens. 1	H334	Route of exposure: inhalative
STOT SE 3	H335	Route of exposure: inhalative
Carc. 2	H351	
STOT RE 2	H373	Route of exposure: inhalative

cATpE	inhalative, Dust/Mist	1,5	mg/l
cATpE	inhalative, Vapors	11	mg/l

Additional remarks:

DSD	Directive 67/548/EEC, Annex I, Note C, 2
CLP	Regulation (EC) No 1272/2008, Annex VI, Note 2, C

Formaldehyde, oligomeric reaction products with aniline and phosgene

CAS No.	32055-14-4				
EINECS no.	500-079-6				
Registration no.	01-2119457024-46-XXXX				
Concentration	>=	10	<	17	%

Classification (Regulation (EC) No. 1272/2008)

Skin Irrit. 2	H315	
Skin Sens. 1	H317	
Eye Irrit. 2	H319	
Acute Tox. 4	H332	Route of exposure: inhalative
Resp. Sens. 1	H334	
STOT SE 3	H335	Respiratory tract; Route of exposure: inhalative
Carc. 2	H351	
STOT RE 2	H373	Respiratory tract; Route of exposure: inhalative

ATE	inhalative, Dust/Mist	0,31	mg/l
cATpE	inhalative, Vapors	11	mg/l

4,4'-Methylendiphenyle diisocyanate

CAS No.	101-68-8				
EINECS no.	202-966-0				
Registration no.	01-2119457014-47-XXXX				
Concentration	>=	5	<	9,5	%

Classification (Regulation (EC) No. 1272/2008)

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

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 5 %
Resp. Sens. 1	H334	>= 0,1 %
Skin Irrit. 2	H315	>= 5 %
STOT SE 3	H335	>= 5 %

cATpE inhalative, Dust/Mist 1,5 mg/l

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note 2, C

propylene carbonate

CAS No. 108-32-7

EINECS no. 203-572-1

Registration no. 01-2119537232-48-XXXX

Concentration >= 1 < 10 %

Classification (Regulation (EC) No. 1272/2008)

Eye Irrit. 2 H319

ATE dermal 2.000 mg/kg

o-(p-isocyanatobenzyl)phenyl isocyanate

CAS No. 5873-54-1

EINECS no. 227-534-9

Registration no. 01-2119480143-45-XXXX

Concentration >= 1 < 5 %

Classification (Regulation (EC) No. 1272/2008)

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

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 5 %
Resp. Sens. 1	H334	>= 0,1 %
Skin Irrit. 2	H315	>= 5 %
STOT SE 3	H335	>= 5 %

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note 2, C

4,4'-Methylenediphenyl diisocyanate, oligomers

CAS No. 25686-28-6

EINECS no. 500-040-3

Registration no. 01-2119457013-49-XXXX

Concentration >= 1 < 2,1 %

Classification (Regulation (EC) No. 1272/2008)

Skin Irrit. 2	H315
Skin Sens. 1	H317
Eye Irrit. 2	H319
Acute Tox. 4	H332
Resp. Sens. 1	H334
STOT SE 3	H335
Carc. 2	H351
STOT RE 2	H373

Concentration limits (Regulation (EC) No. 1272/2008)

	Skin Irrit. 2	H315	>= 5 %
	Eye Irrit. 2	H319	>= 5 %
	Resp. Sens. 1	H334	>= 0,1 %
	STOT SE 3	H335	>= 5 %

cATpE	inhalative, Vapors	11	mg/l

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, soaked clothing immediately and dispose of safely. Adhere to personal protective measures when giving first aid. Clean body thoroughly (bath, shower). In any case show the physician the Safety Data Sheet.

After inhalation

Ensure supply of fresh air. Remove affected person from danger area.

After skin contact

Remove contaminated clothing. After contact with skin, wash immediately with plenty of water and soap.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

After ingestion

Rinse mouth thoroughly with water. Do NOT induce vomiting. Take medical treatment.

Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

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

Hints for the physician / hazards

Until now no symptoms known so far.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO2-blanket, powders, water spray/mist

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible.

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Do not inhale explosion and/or combustion gases. In case of combustion use a suitable breathing apparatus. Wear full protective suit.

Other information

Collect contaminated fire-fighting water separately, must not be discharged into the drains. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations. Observe manufacturer's / distributor`s instructions.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water. Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Containers in which spilt substance has been collected must be adequately labelled. Dispose of absorbed material in accordance with the regulations.

6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid formation of aerosols. Perform filling operations only at stations with exhaust ventilation facilities. Provide suitable exhaust ventilation at the processing machines. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Keep container tightly closed. Cleaning applications with dipolar and non-protogenic solvents, such as acetone, dimethyl sulphoxide DMSO or N,N-dimethylformamide DMF may lead to the formation of hazardous primary aromatic amines.

7.2. Conditions for safe storage, including any incompatibilities

Storage stability

Development of C02 overpressure in isocyanate containers after exposure to moisture.

Requirements for storage rooms and vessels

Keep in original packaging, tightly closed. Storage rooms must be properly ventilated. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Provide solvent-resistant and impermeable floor.

Hints on storage assembly

Do not store together with foodstuffs.

Storage classes

Storage class according to TRGS 510	10	Flammable liquids
Storage category (Switzerland)	10/12	Other liquid hazardous substances

Further information on storage conditions

Storage only on a drip tray that can hold at least the contents of the largest container. Keep under lock and key or accessible only to specialists or people who are authorized. Keep container tightly closed and dry in a cool, well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other information

There are not known any further control parameters.

Derived No/Minimal Effect Levels (DNEL/DMEL)

4,4'-Methylenediphenyl diisocyanate, oligomers

Type of value	Derived No Effect Level (DNEL)
Reference group	Worker

Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	50	µg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	100	µg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	25	µg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	50	µg/m³
Source	ECHA	

Formaldehyde, oligomeric reaction products with aniline and phosgene

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50	mg/kg/d
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,1	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Local effects	
Concentration	28,7	mg/cm²
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)

Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,1	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,05	mg/m³
Source	GESTIS-DNEL-database	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,05	mg/m³
Source	GESTIS-DNEL-database	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,025	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,05	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,025	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,05	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	

Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	25	mg/kg/d
Source	Manufacturer's data	
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Local effects	
Concentration	17,2	mg/cm²
Source	Manufacturer's data	
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	20	mg/kg/d
Source	Manufacturer's data	

propylene carbonate

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	70,53	mg/m³
Source	ECHA	
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	20	mg/m³
Source	ECHA	
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	20	mg/kg/d
Source	ECHA	
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	17,4	mg/m³
Source	ECHA	
Type of value	Derived No Effect Level (DNEL)	

Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	10	mg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	10	mg/kg/d
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	10	mg/kg/d
Source	ECHA	

4,4'-Methylendiphenyle diisocyanate

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	50	µg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	100	µg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	25	µg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	50	µg/m³
Source	ECHA	

o-(p-isocyanatobenzyl)phenyl isocyanate

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50	mg/kg/d
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,1	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Local effects	
Concentration	28,7	mg/cm²
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,1	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,05	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,05	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	25	mg/kg/d
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,05	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	20	mg/kg/d
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Local effects	
Concentration	17,2	mg/cm²
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,05	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,025	mg/m³
Source	Manufacturer's data	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,025	mg/m³
Source	Manufacturer's data	

Predicted No Effect Concentration (PNEC)

4,4'-Methylenediphenyl diisocyanate, oligomers

Type of value	PNEC	
Type	Freshwater	
Concentration	1	mg/l
Source	ECHA	

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	10	mg/l
Source	ECHA	

Type of value	PNEC	
Type	Saltwater	
Concentration	100	µg/l
Source	ECHA	

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	1	mg/l
Source	ECHA	

Type of value	PNEC	
Type	Soil	
Concentration	1	mg/kg
Source	ECHA	

Formaldehyde, oligomeric reaction products with aniline and phosgene

Type of value	PNEC	
Type	Freshwater	
Concentration	> 1	mg/l
Source	Manufacturer's data	

Type of value	PNEC	
Type	Saltwater	
Concentration	> 0,1	mg/l
Source	Manufacturer's data	

Type of value	PNEC	
Type	Soil	
Concentration	> 1	mg/kg
Source	Manufacturer's data	

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	> 1	mg/l
Source	Manufacturer's data	

propylene carbonate

Type of value	PNEC	
Type	Freshwater	
Concentration	0,9	mg/l
Method	Assessment factors	
Source	ECHA	

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	9	mg/l
Method	Assessment factors	
Source	ECHA	

Type of value	PNEC
Type	Saltwater

Concentration	0,09	mg/l
Method	Assessment factors	
Source	ECHA	
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	7400	mg/l
Method	Assessment factors	
Source	ECHA	
Type of value	PNEC	
Type	Soil	
Concentration	0,81	mg/kg
Source	ECHA	

4,4'-Methylendiphenyle diisocyanate

Type of value	PNEC	
Type	Freshwater	
Concentration	1	mg/l
Source	ECHA	
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	10	mg/l
Source	ECHA	
Type of value	PNEC	
Type	Marine	
Concentration	100	µg/l
Source	ECHA	
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	1	mg/l
Source	ECHA	
Type of value	PNEC	
Type	Soil	
Concentration	1	mg/kg
Source	ECHA	

o-(p-isocyanatobenzyl)phenyl isocyanate

Type of value	PNEC	
Type	Freshwater	
Concentration	1	mg/l
Source	ECHA	
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	10	mg/l
Source	ECHA	
Type of value	PNEC	
Type	Marine	
Concentration	100	µg/l
Source	ECHA	

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	1	mg/l
Source	ECHA	

Type of value	PNEC	
Type	Soil	
Concentration	1	mg/kg
Source	ECHA	

8.2. Exposure controls

General protective and hygiene measures

Hold emergency shower available. Hold eye wash fountain available. Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes. Do not eat, drink or smoke during work time. Storage of foodstuffs in work rooms is forbidden. Wash hands before breaks and after work. Clean skin thoroughly after work; apply skin cream.

Respiratory protection

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Advantage 200LS, MSA; Multi-purpose filter ABEK

Hand protection

Chemical resistant gloves

Appropriate Material	butyl		
Glove type	Butoject 897, KCL GmbH		
Material thickness	>	0,7	mm
Appropriate Material	nitrile		
Material thickness	>	0,4	mm

Eye protection

Tightly fitting safety glasses

Body protection

impermeable protective overalls

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid		
Colour	yellowish		
Odour	slightly aromatic		
Melting point			
Remarks	not determined		
Freezing point			
Remarks	not determined		
Boiling point or initial boiling point and boiling range			
Value	>	300	°C
Flammability			
evaluation	not determined		
Upper and lower explosive limits			
Remarks	not determined		
Flash point			
Value	appr.	200	°C

Ignition temperature

Value	>	600			°C

Decomposition temperature

Remarks not determined

pH value

Remarks not determined

Viscosity

dynamic

Value	appr.	2.100	to	3.100	mPa.s
Temperature		23	°C		
Method	DIN EN ISO 3219				

Solubility(ies)

Remarks not determined

Partition coefficient n-octanol/water (log value)

Remarks not determined

Vapour pressure

Remarks not determined

Density and/or relative density

Value	appr.	1,1		g/cm³
Temperature		20	°C	
Method	ASTM D 4052			

Relative vapour density

Remarks not determined

9.2. Other information

Odour threshold

Remarks not determined

Evaporation rate (ether = 1) :

Remarks not determined

Solubility in water

Remarks not determined

Explosive properties

evaluation not determined

Oxidising properties

Remarks not determined

Other information

None known

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions

Protect from heat/overheating. Protect from atmospheric moisture and water. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container. reacts

with: Water. alcohols. acids. alcalines. amines. Danger of exothermic reaction. Danger of polymerisation

10.4. Conditions to avoid

If product is heated above decomposition temperature toxic vapours may be released. Protect from atmospheric moisture and water. Do not store at temperatures above 60 °C.

10.5. Incompatible materials

Water, Reactions with alcohols, amines, aqueous acids and alkalies.

10.6. Hazardous decomposition products

Toxic gases/vapours, Irritant gases/vapours

SECTION 11: Toxicological information

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

Acute oral toxicity

Remarks	not determined

Acute oral toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	rat (female)		
LD50	>	5000	mg/kg
Method	OECD 425		
Source	Manufacturer's data		

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	Rats (male/female)		
LD50	>	2.000	mg/kg
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

propylene carbonate

Species	Rats (male/female)		
LD50	>	5.000	mg/kg
Method	OECD 401		
Source	ECHA		

methylenediphenyl diisocyanate

Species	Rats (male/female)		
LD50	>	2.000	mg/kg
Method	EEC 84/449, B.1		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

4,4'-methylenediphenyl diisocyanate

Species	Rats (male/female)		
LD50	>	2000	mg/kg
Method	EEC 84/449, B.1		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

Acute dermal toxicity

ATE	>	10.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute dermal toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	rabbit		
LD50	>	9400	mg/kg
Duration of exposure		24 h	
Method	OECD 402		

Remarks	Test conducted with a similar formulation.			
Source	ECHA			

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	rabbit			
LD50	>	9.400		mg/kg
Duration of exposure		24	h	
Method	OECD 402			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

propylene carbonate

Species	rabbit			
LD50	>=	2.000		mg/kg
Duration of exposure		24	h	
Method	OECD 402			
Source	ECHA			

methylenediphenyl diisocyanate

Species	rabbit			
LD50	>	9.400		mg/kg
Method	OECD 402			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

4,4'-methylenediphenyl diisocyanate

Species	rabbit			
LD50	>	9400		mg/kg
Method	OECD 402			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

Acute inhalational toxicity

ATE		13,1002		mg/l
Administration/Form	Vapors			
Method	calculated value (Regulation (EC) No. 1272/2008)			
ATE		0,9941		mg/l
Administration/Form	Dust/Mist			
Method	calculated value (Regulation (EC) No. 1272/2008)			

Acute inhalative toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	Rats (male/female)			
LC50		431,18		mg/m³
Duration of exposure	appr.	4	h	
Administration/Form	Dust/Mist			
Method	OECD 403			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	Rats (male/female)			
LC50		0,31		mg/l
Duration of exposure		4	h	
Administration/Form	Dust/Mist			
Method	OECD 403			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

4,4'-Methylendiphenyle diisocyanate

Species	rat (male)			
LC50		0,368		mg/l

Duration of exposure	4	h	
Administration/Form	Dust/Mist		
Method	OECD 403		
Source	Manufacturer's data		

4,4'-methylenediphenyl diisocyanate

Species	rat (male)		
LC50	387		mg/m³
Duration of exposure	4	h	
Administration/Form	Dust/Mist		
Method	OECD 403		
Source	ECHA		

4,4'-methylenediphenyl diisocyanate

Species	rat (female)		
LC50	645		mg/m³
Duration of exposure	4	h	
Administration/Form	Dust/Mist		
Source	ECHA		

Skin corrosion/irritation

Remarks not determined

Skin corrosion/irritation (Components)

propylene carbonate

Species	rabbit	
Duration of exposure	24	h
Observation Period	72	h
evaluation	non-irritant	
Method	OECD 404	
Source	ECHA	

methylenediphenyl diisocyanate

Species	rabbit
evaluation	irritant
Method	OECD 404
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

4,4'-methylenediphenyl diisocyanate

Species	rabbit
evaluation	irritant
Method	OECD 404
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	rabbit	
Duration of exposure	4	h
Observation Period	14	d
evaluation	irritant	
Method	OECD 404	
Remarks	Test conducted with a similar formulation.	
Source	ECHA	

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	rabbit	
Duration of exposure	4	h
Observation Period	14	d
evaluation	irritant	
Method	OECD 404	
Remarks	Test conducted with a similar formulation.	

Source	ECHA

Serious eye damage/irritation

Remarks	not determined

Serious eye damage/irritation (Components)

propylene carbonate

Species	rabbit		
Duration of exposure	appr.	1	s
Observation Period		10	d
evaluation	irritant		
Method	OECD 405		
Source	ECHA		

methylenediphenyl diisocyanate

Species	rabbit
evaluation	non-irritant
Method	OECD 405
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

4,4'-methylenediphenyl diisocyanate

Species	rabbit
evaluation	non-irritant
Method	OECD 405
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	rabbit		
Duration of exposure		24	h
Observation Period		21	d
evaluation	non-irritant		
Method	OECD 405		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	rabbit		
Duration of exposure		24	h
Observation Period		21	d
evaluation	non-irritant		
Method	OECD 405		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

Sensitization

Remarks	not determined

Sensitization (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Route of exposure	dermal
Species	guinea pig
evaluation	sensitizing
Method	OECD 406
Source	Manufacturer's data

4,4'-Methylenediphenyl diisocyanate, oligomers

Route of exposure	inhalative
Species	guinea pig
evaluation	sensitizing
Remarks	Test conducted with a similar formulation.

Source	ECHA

Formaldehyde, oligomeric reaction products with aniline and phosgene

Route of exposure	dermal
Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406
Remarks	Test conducted with a similar formulation.
Source	ECHA

Formaldehyde, oligomeric reaction products with aniline and phosgene

Route of exposure	inhalative
Species	rat (male)
evaluation	sensitizing
Remarks	Test conducted with a similar formulation.
Source	ECHA

methylenediphenyl diisocyanate

Route of exposure	dermal
Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406
Source	ECHA

methylenediphenyl diisocyanate

Route of exposure	inhalative
Species	guinea pig
evaluation	sensitizing
Source	ECHA

methylenediphenyl diisocyanate

Route of exposure	dermal
Species	mouse
evaluation	sensitizing
Method	OECD 429
Source	Manufacturer's data

4,4'-methylenediphenyl diisocyanate

Route of exposure	epicutaneous
Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

4,4'-methylenediphenyl diisocyanate

Route of exposure	dermal
Species	mouse
evaluation	sensitizing
Method	OECD 429
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

4,4'-methylenediphenyl diisocyanate

Route of exposure	inhalative
Species	guinea pig
evaluation	sensitizing
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

Subacute, subchronic, chronic toxicity

Remarks	not determined

Subacute, subchronic, chronic toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Chronic toxicity				
Route of exposure	inhalative			
Species	Rats (male/female)			
NOAEC	0,19	to	0,2	mg/m³
Repeated exposure				
Duration of exposure	2	y		
Method	OECD 453			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

4,4'-Methylenediphenyl diisocyanate, oligomers

Chronic toxicity				
Route of exposure	inhalative			
Species	Rats (male/female)			
LOAEC	0,98	to	1	mg/m³
Repeated exposure				
Duration of exposure	2	y		
Method	OECD 453			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

Formaldehyde, oligomeric reaction products with aniline and phosgene

Chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEL	0,2		mg/m³
Repeated exposure			
Duration of exposure	2	y	
Method	OECD 453		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

Formaldehyde, oligomeric reaction products with aniline and phosgene

Chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
LOAEC	1		mg/m³
Repeated exposure			
Duration of exposure	2	y	
Method	OECD 453		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

propylene carbonate

Sub-chronic toxicity			
Route of exposure	oral		
Species	Rats (male/female)		
NOAEL	> 5.000		mg/kg/d
Repeated exposure			
Duration of exposure	90	d	
Method	OECD 408		
Source	ECHA		

propylene carbonate

Sub-chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEC	100		mg/m³
Repeated exposure			

Duration of exposure	13	Weeks	
Method	OECD 413		
Source	ECHA		

propylene carbonate

Sub-chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
LOAEC	500		mg/m³
Repeated exposure			
Duration of exposure	13	Weeks	
Method	OECD 413		
Source	ECHA		

methylenediphenyl diisocyanate

Chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEL	0,2		mg/m³
Repeated exposure			
Duration of exposure	2	y	
Method	OECD 453		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

methylenediphenyl diisocyanate

Chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
LOAEL	1		mg/m³
Repeated exposure			
Duration of exposure	2	y	
Method	OECD 453		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

4,4'-methylenediphenyl diisocyanate

Chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEL	0,2		mg/m³
Repeated exposure			
Duration of exposure	2	y	
Method	OECD 453		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

4,4'-methylenediphenyl diisocyanate

Chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
LOAEL	1		mg/m³
Repeated exposure			
Duration of exposure	2	y	
Method	OECD 453		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

Mutagenicity

Remarks	not determined

Mutagenicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	Salmonella typhimurium
evaluation	No experimental information on genotoxicity in vitro available.
Method	EEC 84/449, B.14
Source	ECHA

4,4'-Methylenediphenyl diisocyanate, oligomers

Route of exposure	inhalative	
Species	rat (male)	
Dose	118	mg/m³
Duration of exposure	3	Weeks
evaluation	No experimental indications on genotoxicity in vivo found.	
Method	OECD 474	
Remarks	Test conducted with a similar formulation.	
Source	ECHA	

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	Salmonella typhimurium
evaluation	No experimental information on genotoxicity in vitro available.
Method	EEC 84/449, B.14
Remarks	Test conducted with a similar formulation.
Source	ECHA

Formaldehyde, oligomeric reaction products with aniline and phosgene

Route of exposure	inhalative	
Species	rat (male)	
Duration of exposure	3	Weeks
evaluation	No experimental indications on genotoxicity in vivo found.	
Method	OECD 474	
Remarks	Test conducted with a similar formulation.	
Source	ECHA	

propylene carbonate

Species	Salmonella typhimurium
evaluation	No experimental information on genotoxicity in vitro available.
Method	OECD 471
Source	ECHA

methylenediphenyl diisocyanate

Species	Salmonella typhimurium
evaluation	No experimental information on genotoxicity in vitro available.
Method	OECD 471
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

methylenediphenyl diisocyanate

Route of exposure	inhalative	
Species	rat (male)	
Dose	118	mg/m³
Duration of exposure	3	Weeks
evaluation	No experimental indications on genotoxicity in vivo found.	
Method	OECD 474	
Source	ECHA	

4,4'-methylenediphenyl diisocyanate

Species	Salmonella typhimurium
evaluation	No experimental information on genotoxicity in vitro available.
Method	OECD 471
Source	Manufacturer's data

4,4'-methylenediphenyl diisocyanate

Route of exposure	inhalative		
Species	rat (male)		
Duration of exposure	3	Weeks	
evaluation	No experimental indications on genotoxicity in vivo found.		
Method	OECD 474		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

Reproductive toxicity

Remarks not determined

Carcinogenicity

Remarks not determined

Carcinogenicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Route of exposure	inhalative	
Species	Rats (male/female)	
Dose	6	mg/m³
Duration of exposure	2	y
evaluation	Suspected of causing cancer.	
Method	OECD 453	
Remarks	Test conducted with a similar formulation.	
Source	Manufacturer's data	

Formaldehyde, oligomeric reaction products with aniline and phosgene

Route of exposure	inhalative	
Species	Rats (male/female)	
Dose	6	mg/m³
Duration of exposure	2	y
evaluation	Definitely confirmed as causing cancer in the experiment on test animals.	
Method	OECD 453	
Remarks	Test conducted with a similar formulation.	
Source	ECHA	

methylenediphenyl diisocyanate

Route of exposure	inhalative	
Species	Rats (male/female)	
Dose	6	mg/m³
Duration of exposure	2	y
evaluation	Suspected of causing cancer.	
Method	OECD 453	
Remarks	Test conducted with a similar formulation.	
Source	Manufacturer's data	

4,4'-methylenediphenyl diisocyanate

Route of exposure	inhalative	
Species	Rats (male/female)	
Dose	6	mg/m³
Duration of exposure	2	y
evaluation	Suspected of causing cancer.	
Method	OECD 453	
Remarks	Test conducted with a similar formulation.	
Source	Manufacturer's data	

Specific Target Organ Toxicity (STOT)

Remarks not determined

11.2 Information on other hazards

Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

Inhalation may lead to irritation of the respiratory tract.

Other information

No toxicological data are available.

SECTION 12: Ecological information

12.1. Toxicity

General information

not determined

Fish toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	zebra fish (Brachydanio rerio)		
LC50	>	1000	mg/l
Duration of exposure		96 h	
Method	OECD 203		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	zebra fish (Brachydanio rerio)		
LC50	>	1.000	mg/l
Duration of exposure		96 h	
Method	OECD 203		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

propylene carbonate

Species	carp (Cyprinus carpio)		
LC50	>	1.000	mg/l
Duration of exposure		96 h	
Method	Regulation (EC) No. 440/2008, Annex, C.1		
Source	ECHA		

propylene carbonate

Species	carp (Cyprinus carpio)		
NOEC		1.000	mg/l
Duration of exposure		96 h	
Method	Regulation (EC) No. 440/2008, Annex, C.1		
Source	ECHA		

propylene carbonate

Species	carp (Cyprinus carpio)		
LOEC	>	1.000	mg/l
Duration of exposure		96 h	
Method	Regulation (EC) No. 440/2008, Annex, C.1		
Source	ECHA		

methylenediphenyl diisocyanate

Species	zebra fish (Brachydanio rerio)		
LC50	>	1.000	mg/l
Duration of exposure		96 h	
Method	OECD 203		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

4,4'-methylenediphenyl diisocyanate

Species	zebra fish (Brachydanio rerio)			
LC50	>	1000		mg/l
Duration of exposure		96	h	
Method	OECD 203			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

Daphnia toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	Daphnia magna			
NOEC	>=	10		mg/l
Duration of exposure		21	d	
Method	OECD 211			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	Daphnia magna			
EC50	>	1000		mg/l
Duration of exposure		24	h	
Method	OECD 202			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	Daphnia magna			
EC50	>	1.000		mg/l
Duration of exposure		24	h	
Method	OECD 202			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	Daphnia magna			
NOEC	>=	10		mg/l
Duration of exposure		21	d	
Method	OECD 211			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

propylene carbonate

Species	Daphnia magna			
EC50	>	1.000		mg/l
Duration of exposure		48	h	
Method	OECD 202			
Source	ECHA			

methylenediphenyl diisocyanate

Species	Daphnia magna			
EC50	>	1.000		mg/l
Duration of exposure		24	h	
Method	OECD 202			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

methylenediphenyl diisocyanate

Species	Daphnia magna			
NOEC	>	10		mg/l
Duration of exposure		21	d	
Method	OECD 202			
Remarks	Test conducted with a similar formulation.			

Source	Manufacturer's data			

4,4'-methylenediphenyl diisocyanate

Species	Daphnia magna			
EC50	>	1000		mg/l
Duration of exposure		24	h	
Method	OECD 202			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

4,4'-methylenediphenyl diisocyanate

Species	Daphnia magna			
NOEC	>	10		mg/l
Duration of exposure		21	d	
Method	OECD 202			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

Algae toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	Scenedesmus subspicatus			
EC50	>	1640		mg/l
Duration of exposure		3	d	
Method	OECD 201			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	Scenedesmus subspicatus			
EC50	>	1.640		mg/l
Duration of exposure		3	d	
Method	OECD 201			
Remarks	Test conducted with a similar formulation.			
Source	ECHA			

propylene carbonate

Species	Scenedesmus subspicatus			
NOEC		900		mg/l
Duration of exposure		72	h	
Method	OECD 201			
Source	ECHA			

propylene carbonate

Species	Scenedesmus subspicatus			
EC50	>	900		mg/l
Duration of exposure		72	h	
Method	OECD 201			
Source	ECHA			

methylenediphenyl diisocyanate

Species	Scenedesmus subspicatus			
ErC50	>	1.640		mg/l
Duration of exposure		72	h	
Method	OECD 201			
Remarks	Test conducted with a similar formulation.			
Source	Manufacturer's data			

4,4'-methylenediphenyl diisocyanate

Species	Scenedesmus subspicatus			
ErC50	>	1640		mg/l
Duration of exposure		72	h	
Method	OECD 201			

Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

Bacteria toxicity (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Species	activated sludge		
EC50	>	100	mg/l
Duration of exposure	3	h	
Method	OECD 209		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

Formaldehyde, oligomeric reaction products with aniline and phosgene

Species	activated sludge		
EC50	>	100	mg/l
Duration of exposure	3	h	
Method	OECD 209		
Remarks	Test conducted with a similar formulation.		
Source	ECHA		

propylene carbonate

Species	Pseudomonas putida		
EC50	25.619		mg/l
Duration of exposure	16	h	
Method	DIN 38412 / Part 8		
Source	ECHA		

methylenediphenyl diisocyanate

Species	activated sludge		
EC50	>	100	mg/l
Duration of exposure	3	h	
Method	OECD 209		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

4,4'-methylenediphenyl diisocyanate

Species	activated sludge		
EC50	>	100	mg/l
Duration of exposure	3	h	
Method	OECD 209		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

12.2. Persistence and degradability

General information

not determined

Biodegradability (Components)

4,4'-Methylenediphenyl diisocyanate, oligomers

Value	0		%
Duration of test	28	d	
evaluation	not degradable		
Method	OECD 302C		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

Formaldehyde, oligomeric reaction products with aniline and phosgene

Value	0		%
Duration of test	28	d	
evaluation	not degradable		
Method	OECD 302C		

Remarks	Test conducted with a similar formulation.				
Source	ECHA				

propylene carbonate

Value	83,5	to	87,7	%
Duration of test	29	d		
evaluation	Readily biodegradable (according to OECD criteria)			
Method	OECD Guideline 301B			
Source	ECHA			

methylenediphenyl diisocyanate

Value	0		%
Duration of test	28	d	
evaluation	not degradable		
Method	OECD 302C		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

4,4'-methylenediphenyl diisocyanate

Value	0		%
Duration of test	28	d	
evaluation	not degradable		
Method	OECD 302C		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

12.3. Bioaccumulative potential

General information

not determined

Partition coefficient n-octanol/water (log value)

Remarks not determined

12.4. Mobility in soil

General information

not determined

12.5. Results of PBT and vPvB assessment

General information

not determined

Results of PBT and vPvB assessment

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

General information

not determined

General information / ecology

Do not allow to enter soil, waterways or waste water canal. Avoid release into the atmosphere.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Dispose of as hazardous waste.
EWC waste code 08 05 01* waste isocyanates
For cured material waste key number (EAK) 08 04 10 can be applied.
The listed waste code numbers, according to the European Waste Catalogue (EWC), are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.

Disposal recommendations for packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Under consideration of safe working praxis the empty container is turned around for 1-2 days to let flow out the residues.
Subsequently add 2 - 3 L of one of the following decontamination solutions per 215 L container volume:
1. A mixture of 75 % water, 20 % non-ionic detergens and 5 % n-propanole.
2. A mixture of 80 % water and 20 % non-ionic detergent.
3. A mixture of 90 % water, 3-8 % ammonium hydroxide or a conc. solution of ammonia and 2 % liquid detergent.
For wetting the whole inner surface turn the container around several times and sotre it open for 2-3 h.
After this time the isocyanate is converted to an harmless solid (polyurea), so the container can be disposed after filtering off the decontamination solution.
The residual decontamination solution can be used to decontaminate more empty containers. It can be disposed if it doesn´t smell of ammonia (if necessary after neutralization).
Packaging that cannot be cleaned should be disposed off as product waste.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number or ID number	The product does not constitute a hazardous substance in land transport.	The product does not constitute a hazardous substance in sea transport.	The product does not constitute a hazardous substance in air transport.
14.2. UN proper shipping name	-	-	-
14.3. Transport hazard class(es)	-	-	-
Label			
14.4. Packing group	-	-	-

SECTION 15: Regulatory information

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

Other regulations, restrictions and prohibition regulations

REGULATION (EC) No. 1907/2006 ANNEX XVII:
Conditions of restriction: Entry 3
Conditions of restriction: Entry 56
Conditions of restriction: Entry 74

As from 24 August 2023 adequate training is required before industrial or professional use.
BG Data Sheet M 044 "Polyurethane manufacture / Isocyanates"

Other information

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

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

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	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

Hazard statements listed in Chapter 2/3

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.

CLP categories listed in Chapter 2/3

Acute Tox. 4	Acute toxicity, Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Eye irritation, Category 2
Resp. Sens. 1	Respiratory sensitization, Category 1
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.