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

1.1. Product identifier

PC 71-020 Part B

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

Identified Uses

SU19	Building and construction work
PC9a	Coatings and paints, thinners, paint removers
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
PROC5	Mixing or blending in batch processes
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)

Flam. Liq. 3	H226
Acute Tox. 4	H332
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
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 ***

Warning

Hazard statements ***

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements ***

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501.1	Dispose of contents/container to industrial incineration plant.

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

contains Hexamethylene-1,6-diisocyanat homopolymer; xylene; ethylbenzene; hexamethylene-di-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

polymer-containing coating

Hazardous ingredients

Hexamethylene-1,6-diisocyanat homopolymer

CAS No.	28182-81-2
EINECS no.	500-060-2
Registration no.	2119485796-17-XXXX
Concentration	>= 54 < 75 %

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

Skin Sens. 1	H317		
Acute Tox. 4	H332		Route of exposure: inhalative
STOT SE 3	H335		

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

2-methoxy-1-methylethyl acetate

CAS No.	108-65-6				
EINECS no.	203-603-9				
Registration no.	01-2119475791-29-XXXX				
Concentration	>=	10	<	20	%

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

Flam. Liq. 3	H226	
STOT SE 3	H336	Route of exposure: oral

xylene

CAS No.	1330-20-7				
EINECS no.	215-535-7				
Registration no.	01-2119488216-32-XXXX				
Concentration	>=	10	<	11	%

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

Flam. Liq. 3	H226	
Acute Tox. 4	H312	
Acute Tox. 4	H332	
Asp. Tox. 1	H304	
Skin Irrit. 2	H315	
Eye Irrit. 2	H319	
STOT SE 3	H335	
STOT RE 2	H373	

cATpE	dermal	1.100	mg/kg
cATpE	inhalative, Dust/Mist	1,5	mg/l

Additional remarks:

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

ethylbenzene

CAS No.	100-41-4				
EINECS no.	202-849-4				
Registration no.	01-2119489370-35-XXXX				
Concentration	>=	1	<	2,6	%

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

Flam. Liq. 2	H225	
Asp. Tox. 1	H304	
Acute Tox. 4	H332	Route of exposure: inhalative
STOT RE 2	H373	Ear
Aquatic Chronic 3	H412	

cATpE	inhalative, Dust/Mist	1,5	mg/l
ATE	inhalative, Vapors	17,8	mg/l

hexamethylene-di-isocyanate

CAS No.	822-06-0				
EINECS no.	212-485-8				
Registration no.	01-2119457571-37-XXXX				
Concentration	>=	0,1	<	0,39	%

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

Acute Tox. 3	H331	
Skin Irrit. 2	H315	

Eye Irrit. 2	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
STOT SE 3	H335

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

	Resp. Sens. 1	H334	>= 0,5 %
	Skin Sens. 1	H317	>= 0,5 %

ATE	inhalative, Dust/Mist	0,124	mg/l
ATE	inhalative, Vapors	0,124	mg/l

Additional remarks:

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

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

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 3 Flammable liquid

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

Exposure limit values

xylene

Value	109	mg/m³	25	ppm(V)
Short term exposure limit	218	mg/m³	50	ppm(V)

Skin resorption / sensibilisation: Skin; Status: 08/2022; Remarks: short term: 15 minutes average value; GESTIS

xylene

List	IOELV			
Value	221	mg/m³	50	ppm(V)
Short term exposure limit	442	mg/m³	100	ppm(V)

Status: 08/2022; Remarks: short term: 15 minutes average value; Indicative Occupational Exposure Limit Value (IOELV); GESTIS

ethylbenzene

List	GV			
Value	217	mg/m³	50	ppm(V)

Skin resorption / sensibilisation: H; Remarks: EHK

ethylbenzene

List	IOELV			
Type	IOELV			
Value	442	mg/m³	100	ppm(V)
Short term exposure limit	884	mg/m³	200	ppm(V)

Skin resorption / sensibilisation: Sk; Remarks: Skin

2-methoxy-1-methylethyl acetate

List	GV			
Value	275	mg/m³	50	ppm(V)

Skin resorption / sensibilisation: H; Remarks: EH

2-methoxy-1-methylethyl acetate

List	IOELV			
Type	IOELV			
Value	275	mg/m³	50	ppm(V)
Short term exposure limit	550	mg/m³	100	ppm(V)

Skin resorption / sensibilisation: Sk; Remarks: Skin

Other information

There are not known any further control parameters.

Derived No/Minimal Effect Levels (DNEL/DMEL)

Hexamethylene-1,6-diisocyanat homopolymer

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	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	Local effects	
Concentration	0,5	mg/m³
Source	Manufacturer's data	

xylene

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

Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	77	mg/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	289	mg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Repeated exposure	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	180	mg/kg/d
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Repeated exposure	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	14,8	mg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Repeated exposure	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	108	mg/kg/d
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Repeated exposure	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	1,6	mg/kg/d
Source	ECHA	

ethylbenzene

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Repeated exposure	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	77	mg/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	293	mg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Repeated exposure	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	180	mg/kg/d
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Repeated exposure	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	15	mg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Repeated exposure	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	1,6	mg/kg/d
Source	ECHA	

hexamethylene-di-isocyanate

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	35	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	Systemic effects	
Concentration	70	µg/m³
Source	ECHA	

2-methoxy-1-methylethyl acetate

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	275	mg/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	550	mg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Repeated exposure	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	796	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	33	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	33	mg/m³
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Repeated exposure	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	320	mg/kg/d
Source	ECHA	

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Repeated exposure	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	36	mg/kg/d
Source	ECHA	

Predicted No Effect Concentration (PNEC)

Hexamethylene-1,6-diisocyanat homopolymer

Type of value	PNEC	
Type	Freshwater	
Concentration	0,199	mg/l
Source	Manufacturer's data	

Type of value	PNEC

Type	Marine	
Concentration	0,0199	mg/l
Source	Manufacturer's data	
Type of value	PNEC	
Type	sediment (freshwater)	
Concentration	44.551	mg/kg
Source	Manufacturer's data	
Type of value	PNEC	
Type	Marine sediment	
Concentration	4.455	mg/kg
Source	Manufacturer's data	
Type of value	PNEC	
Type	Soil	
Concentration	8.884	mg/kg
Source	Manufacturer's data	
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l
Source	Manufacturer's data	

xylene

Type of value	PNEC	
Type	Freshwater	
Concentration	327	µg/l
Source	ECHA	
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	327	µg/l
Source	ECHA	
Type of value	PNEC	
Type	Marine	
Concentration	327	µg/l
Source	ECHA	
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	6,58	mg/l
Source	ECHA	
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	12,46	mg/kg
Source	ECHA	
Type of value	PNEC	
Type	Marine sediment	
Concentration	12,46	mg/kg
Source	ECHA	
Type of value	PNEC	

Type	Soil		
Concentration	2,31		mg/kg
Source	ECHA		

ethylbenzene

Type of value	PNEC		
Type	Freshwater		
Concentration	100		µg/l
Source	ECHA		
Type of value	PNEC		
Type	Water (intermittent release)		
Concentration	100		µg/l
Source	ECHA		
Type of value	PNEC		
Type	Marine		
Concentration	10	100	µg/l
Source	ECHA		
Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	9,6		mg/l
Source	ECHA		
Type of value	PNEC		
Type	sediment (freshwater)		
Concentration	13,7		mg/kg
Source	ECHA		
Type of value	PNEC		
Type	Marine sediment		
Concentration	1,37		mg/kg
Source	ECHA		
Type of value	PNEC		
Type	Soil		
Concentration	2,68		mg/kg
Source	ECHA		

hexamethylene-di-isocyanate

Type of value	PNEC		
Type	Freshwater		
Concentration	77,4		µg/l
Source	ECHA		
Type of value	PNEC		
Type	Water (intermittent release)		
Concentration	774		µg/l
Source	ECHA		
Type of value	PNEC		
Type	Marine		
Concentration	7,74		µg/l
Source	ECHA		

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	8,42	mg/l
Source	ECHA	

Type of value	PNEC	
Type	sediment (freshwater)	
Concentration	0,01334	mg/kg
Source	ECHA	

Type of value	PNEC	
Type	Marine sediment	
Concentration	0,001344	mg/kg
Source	ECHA	

Type of value	PNEC	
Type	Soil	
Concentration	0,0026	mg/kg
Source	ECHA	

2-methoxy-1-methylethyl acetate

Type of value	PNEC	
Type	Freshwater	
Concentration	635	µg/l
Source	ECHA	

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	6,35	mg/l
Source	ECHA	

Type of value	PNEC	
Type	Marine	
Concentration	63,5	µg/l
Source	ECHA	

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l
Source	ECHA	

Type of value	PNEC	
Type	sediment (freshwater)	
Concentration	3,29	mg/kg
Source	ECHA	

Type of value	PNEC	
Type	Marine sediment	
Concentration	329	µg/l
Source	ECHA	

Type of value	PNEC	
Type	Soil	
Concentration	0,290	mg/kg
Source	ECHA	

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l
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

Use respiratory protection when handling large quantities or in case of insufficient ventilation. Serie 7000 EasyLock with filter A1, Moldex; or; Versaflo TR-600 with Filter TR-6110E A1P, 3M

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; Protective Suit 4535, 3M Deutschland GmbH

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	yellowish
Odour	characteristic

Melting point

Remarks: not determined

Freezing point

Remarks: not determined

Boiling point or initial boiling point and boiling range

Remarks: not determined

Flammability

evaluation: not determined

Upper and lower explosive limits

Remarks: not determined

Flash point

Value: 38 °C

Auto-ignition temperature

Remarks: not determined

Decomposition temperature

Remarks: not determined

pH value

Remarks	not determined			

Viscosity

dynamic

Value	appr.	250		mPa.s
Temperature		23	°C	
Method	DIN EN ISO 3219			

kinematic

Value	appr.	208		mm²/s
Temperature		23	°C	

Solubility(ies)

Remarks	not determined

Partition coefficient n-octanol/water (log value)

PU coating

Remarks	not determined

Vapour pressure

Remarks	not determined

Density and/or relative density

Value	appr.	1,20		g/cm³
Temperature		23	°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.

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

PU coating

Remarks	not determined

Acute oral toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Species	rat (female)		
LD50	>=	5.000	mg/kg
Method	OECD 423		
Source	Manufacturer's data		

xylene

Species	rat (male)		
LD50		3.523	mg/kg
Method	EEC 84/449, B.1		
Source	ECHA		

xylene

Species	rat (female)		
LD50	>	4.000	mg/kg
Method	EEC 84/449, B.1		
Source	ECHA		

ethylbenzene

Species	Rats (male/female)		
LD50	appr.	3.500	mg/kg
Method	Value taken from the literature		
Source	ECHA		

hexamethylene-di-isocyanate

Species	rat		
LD50		738	mg/kg
Method	Value taken from the literature		
Source	GESTIS-Stoffdatenbank		

2-methoxy-1-methylethyl acetate

Species	rat		
LD50	>	5000	mg/kg
Method	EPA		
Source	ECHA		

Acute dermal toxicity

PU coating

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

Acute dermal toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Species	rabbit		
LD50	>	2.000	mg/kg
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

ethylbenzene

Species	rabbit		
LD50	appr.	15.400	mg/kg
Duration of exposure		24 h	
Method	Value taken from the literature		
Source	ECHA		

hexamethylene-di-isocyanate

Species	rabbit		
LD50	>	7.000	mg/kg
Method	Value taken from the literature		
Source	GESTIS-Stoffdatenbank		

2-methoxy-1-methylethyl acetate

Species	rat		
LD50	>	5000	mg/kg
Duration of exposure		24 h	
Method	OECD 402		
Source	ECHA		

Acute inhalational toxicity

PU coating

ATE	10,0114	mg/l
Administration/Form	Vapors	
Method	calculated value (Regulation (EC) No. 1272/2008)	

PU coating

ATE	1,6355	mg/l
Administration/Form	Dust/Mist	
Method	calculated value (Regulation (EC) No. 1272/2008)	

Acute inhalative toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Species	rat (female)	
LC50	0,554	mg/l
Duration of exposure	4 h	
Administration/Form	Dust/Mist	
Source	Manufacturer's data	

Hexamethylene-1,6-diisocyanat homopolymer

Species	rat (female)	
LD50	1,5	mg/l
Duration of exposure	4 h	
Administration/Form	Dust/Mist	
Method	expert judgement	
Source	Manufacturer's data	

Hexamethylene-1,6-diisocyanat homopolymer

Species	rat
LD50	
Administration/Form	Vapors
Method	expert judgement
Remarks	Based on available data, the classification criteria are not met.

xylene

Species	rat (male)

LC50	29		mg/l
Duration of exposure	4	h	
Administration/Form	Vapors		
Method	Value taken from the literature		
Source	ECHA		

ethylbenzene

Species	rat (male)		
LC50	17,8		mg/l
Duration of exposure	4	h	
Administration/Form	Vapors		
Method	Value taken from the literature		
Source	ECHA		

hexamethylene-di-isocyanate

Species	rat		
LC50	0,124		mg/l
Duration of exposure	4	h	
Administration/Form	Dust/Mist		
Source	GESTIS-Stoffdatenbank		

hexamethylene-di-isocyanate

Species	Rats (male/female)		
LC50	0,124		mg/l
Duration of exposure	4	h	
Administration/Form	Vapors		
Source	ECHA		

Skin corrosion/irritation

PU coating

Remarks	not determined

Skin corrosion/irritation (Components)

hexamethylene-di-isocyanate

Species	rabbit	
Duration of exposure	4	h
Observation Period	8	d
evaluation	corrosive	
Method	OECD 404	
Source	ECHA	

Hexamethylene-1,6-diisocyanat homopolymer

Species	rabbit
evaluation	slight irritant effect - does not require labelling
Method	OECD 404
Source	Manufacturer's data

Serious eye damage/irritation

PU coating

Remarks	not determined

Serious eye damage/irritation (Components)

hexamethylene-di-isocyanate

Species	rabbit		
Duration of exposure	<= 24	h	
Observation Period	8	d	
evaluation	corrosive		
Method	OECD 405		
Source	ECHA		

Hexamethylene-1,6-diisocyanat homopolymer

Species	rabbit
evaluation	slight irritant effect - does not require labelling
Method	OECD 405
Source	Manufacturer's data

Sensitization

PU coating

Remarks	not determined

Sensitization (Components)

Hexamethylene-1,6-diisocyanat homopolymer

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

hexamethylene-di-isocyanate

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

hexamethylene-di-isocyanate

Route of exposure	inhalative
Species	guinea pig
evaluation	sensitizing
Source	ECHA

2-methoxy-1-methylethyl acetate

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

Subacute, subchronic, chronic toxicity

PU coating

Remarks	not determined

Subacute, subchronic, chronic toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Sub-chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEL	3,3		mg/m³
Repeated exposure			
Duration of exposure	90	d	
Method	OECD 413		
Remarks	Test conducted with a similar formulation.		
Source	Manufacturer's data		

xylene

Sub-chronic toxicity			
Route of exposure	oral		
Species	rat (male)		
LOAEL	150		mg/kg/d
Repeated exposure			
Duration of exposure	90	d	

Method	OECD 408		
Source	ECHA		
xylene			
Sub-chronic toxicity			
Route of exposure	oral		
Species	rat (female)		
NOAEL	150		mg/kg/d
Repeated exposure			
Duration of exposure	90	d	
Method	OECD 408		
Source	ECHA		
ethylbenzene			
Subacute toxicity			
Route of exposure	oral		
Species	Rats (male/female)		
NOAEL	75		mg/kg/d
Repeated exposure			
Duration of exposure	28	d	
Method	OECD 407		
Source	ECHA		
ethylbenzene			
Sub-chronic toxicity			
Route of exposure	oral		
Species	Rats (male/female)		
NOAEL	75		mg/kg/d
Repeated exposure			
Duration of exposure	3	Months	
Method	OECD 408		
Source	ECHA		
ethylbenzene			
Sub-chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEC	1.000		ppm(V)
Repeated exposure			
Duration of exposure	13	Weeks	
Method	OECD 413		
Source	ECHA		
ethylbenzene			
Subacute toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEC	800		ppm(V)
Repeated exposure			
Duration of exposure	4	Weeks	
Method	OECD 412		
Source	ECHA		
ethylbenzene			
Chronic toxicity			
Route of exposure	inhalative		
Species	rat (male)		
NOAEC	250		ppm(V)
Repeated exposure			
Duration of exposure	104	Weeks	
Method	OECD 453		

Source	ECHA		

ethylbenzene

Chronic toxicity			
Route of exposure	inhalative		
Species	rat (female)		
LOAEC	75		ppm(V)
Repeated exposure			
Duration of exposure	104	Weeks	
Method	OECD 453		
Source	ECHA		

hexamethylene-di-isocyanate

Chronic toxicity			
Route of exposure	inhalative		
Species	Rats (male/female)		
NOAEC	0,005		ppm(V)
Repeated exposure			
Duration of exposure	2	y	
Method	OECD 453		
Source	ECHA		

2-methoxy-1-methylethyl acetate

Subacute toxicity			
Route of exposure	oral		
Species	Rats (male/female)		
NOAEL	>= 1000		mg/kg
Repeated exposure			
Duration of exposure	appr. 44	d	
Method	OECD 422		
Source	ECHA		

Mutagenicity

PU coating

Remarks	not determined

Mutagenicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

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

Hexamethylene-1,6-diisocyanat homopolymer

Species	Chinese hamster lung fibroblasts (V79)
evaluation	No experimental information on genotoxicity in vitro available.
Method	OECD 473
Remarks	Test conducted with a similar formulation.
Source	Manufacturer's data

ethylbenzene

Species	mouse lymphoma L5178Y cells
Dose	<= 1.060 mg/l
evaluation	No experimental information on genotoxicity in vitro available.
Method	OECD 476
Source	ECHA

ethylbenzene

Route of exposure	oral
Species	mouse
Dose	<= 750 mg/kg
evaluation	No experimental indications on genotoxicity in vivo found.

Method	OECD 474		
Source	ECHA		

ethylbenzene

Route of exposure	inhalative		
Species	mouse		
Dose	<=	1.000	ppm(V)
Duration of exposure		6	h
evaluation	No experimental indications on genotoxicity in vivo found.		
Method	OECD 486		
Source	ECHA		

hexamethylene-di-isocyanate

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

hexamethylene-di-isocyanate

Species	Chinese hamster Ovary (CHO)		
evaluation	No experimental information on genotoxicity in vitro available.		
Source	ECHA		

hexamethylene-di-isocyanate

Route of exposure	inhalative		
Species	mouse		
Duration of exposure		6	h
evaluation	No experimental indications on genotoxicity in vivo found.		
Method	OECD 474		
Source	ECHA		

2-methoxy-1-methylethyl acetate

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

Reproductive toxicity

PU coating

Remarks	not determined

Carcinogenicity

PU coating

Remarks	not determined

Carcinogenicity (Components)

hexamethylene-di-isocyanate

Route of exposure	inhalative		
Species	Rats (male/female)		
Dose	<=	0,175	ppm(V)
Duration of exposure		2	y
evaluation	No indications of carcinogenic effects are available from long-term trials.		
Method	OECD 453		
Source	ECHA		

Specific Target Organ Toxicity (STOT)

PU coating

Remarks	not determined

11.2. Information on other hazards

Endocrine disrupting properties with respect to humans

PU coating

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

PU coating

Remarks	not determined

Fish toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Species	zebra fish (Brachydanio rerio)		
LC50	>	100	mg/l
Duration of exposure		96 h	
Method	67/548/EWG, V, C.1		
Source	Manufacturer's data		

xylene

Species	rainbow trout (Oncorhynchus mykiss)		
LC50		2,6	mg/l
Duration of exposure		96 h	
Method	OECD 203		
Source	ECHA		

xylene

Species	rainbow trout (Oncorhynchus mykiss)		
NOEC	>	1,3	mg/l
Duration of exposure		56 d	
Source	ECHA		

ethylbenzene

Species	Menidia menidia		
LC50		5,1	mg/l
Duration of exposure		96 h	
Method	EPA		
Source	ECHA		

ethylbenzene

Species	Menidia menidia		
NOEC		3,3	mg/l
Duration of exposure		96 h	
Method	EPA		
Source	ECHA		

hexamethylene-di-isocyanate

Species	zebra fish (Brachydanio rerio)		
LC0	>=	82,8	mg/l
Duration of exposure		96 h	
Method	EEC 84/449, C.1		
Source	ECHA		

2-methoxy-1-methylethyl acetate

Species	rainbow trout (Oncorhynchus mykiss)			
LC50	100		180	mg/l
Duration of exposure	96	h		
Method	OECD 203			
Source	ECHA			

2-methoxy-1-methylethyl acetate

Species	Oryzias latipes		
LC50	63,5		mg/l
Duration of exposure	14	d	
Method	OECD 204		
Source	ECHA		

Daphnia toxicity

PU coating

Remarks	not determined

Daphnia toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Species	Daphnia magna			
EC50	>	100		mg/l
Duration of exposure	48	h		
Method	67/548/EWG, V, C.2			
Source	Manufacturer's data			

xylene

Species	Daphnia magna		
IC50	1		mg/l
Duration of exposure	24	h	
Method	OECD 202		
Source	ECHA		

xylene

Species	Ceriodaphnia dubia		
NOEC	0,96		mg/l
Duration of exposure	7	d	
Source	ECHA		

ethylbenzene

Species	Americamysis bahia (Mysidopsis bahia)		
LC50	2,6		mg/l
Duration of exposure	96	h	
Method	EPA		
Source	ECHA		

hexamethylene-di-isocyanate

Species	Daphnia magna			
EC0	>=	89,1		mg/l
Duration of exposure	24	h		
Method	EEC 84/449, C.2			
Source	ECHA			

2-methoxy-1-methylethyl acetate

Species	Daphnia magna			
EC50	>	500		mg/l
Duration of exposure	48	h		
Method	EEC 84/449, C.2			
Source	ECHA			

2-methoxy-1-methylethyl acetate

Species	Daphnia magna			
EC50	>	100		mg/l

Duration of exposure	21	d			
Method	OECD 211				
Source	ECHA				

Algae toxicity

PU coating

Remarks	not determined				

Algae toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Species	Scenedesmus subspicatus				
ErC50	199				mg/l
Duration of exposure	72	h			
Method	67/548/EWG, V, C.3				
Source	Manufacturer's data				

xylene

Species	Raphidocelis subcapitata (formerly Selenastrum capricornutum/Pseudokirchneriella subcapita)				
NOEC	0,44				mg/l
Duration of exposure	73	h			
Method	OECD 201				
Source	ECHA				

xylene

Species	Raphidocelis subcapitata (formerly Selenastrum capricornutum/Pseudokirchneriella subcapita)				
EC10	0,72	to	1,9		mg/l
Duration of exposure	73	h			
Method	OECD 201				
Source	ECHA				

xylene

Species	Raphidocelis subcapitata (formerly Selenastrum capricornutum/Pseudokirchneriella subcapita)				
EC50	2,2	to	4,36		mg/l
Duration of exposure	73	h			
Method	OECD 201				
Source	ECHA				

xylene

Species	Raphidocelis subcapitata (formerly Selenastrum capricornutum/Pseudokirchneriella subcapita)				
EC90	4,4	to	10		mg/l
Duration of exposure	73	h			
Method	OECD 201				
Source	ECHA				

ethylbenzene

Species	Raphidocelis subcapitata (formerly Selenastrum capricornutum/Pseudokirchneriella subcapita)				
EC50	3,6				mg/l
Duration of exposure	96	h			
Method	EPA				
Source	ECHA				

ethylbenzene

Species	Raphidocelis subcapitata (formerly Selenastrum capricornutum/Pseudokirchneriella subcapita)				
NOEC	3,4				mg/l
Duration of exposure	96	h			
Method	EPA				

Source	ECHA		

ethylbenzene

Species	Skeletonema costatum		
EC50	7,7		mg/l
Duration of exposure	96	h	
Method	EPA		
Source	ECHA		

ethylbenzene

Species	Skeletonema costatum		
NOEC	4,5		mg/l
Duration of exposure	96	h	
Method	EPA		
Source	ECHA		

hexamethylene-di-isocyanate

Species	Scenedesmus subspicatus		
EC50	> 77,4		mg/l
Duration of exposure	72	h	
Method	EU Method C.3		
Source	ECHA		

hexamethylene-di-isocyanate

Species	Scenedesmus subspicatus		
NOEC	11,7		mg/l
Duration of exposure	72	h	
Method	EU Method C.3		
Source	ECHA		

hexamethylene-di-isocyanate

Species	Scenedesmus subspicatus		
LOEC	12,6		mg/l
Duration of exposure	72	h	
Method	EU Method C.3		
Source	ECHA		

2-methoxy-1-methylethyl acetate

Species	Pseudokirchneriella subcapitata		
EC50	> 1.000		mg/l
Duration of exposure	72	h	
Method	OECD 201		
Source	ECHA		

Bacteria toxicity

PU coating

Remarks	not determined

Bacteria toxicity (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Species	activated sludge		
EC50	> 10.000		mg/l
Duration of exposure	3	h	
Method	88/302/EEC		
Source	Manufacturer's data		

xylene

Species	activated sludge		
NOEC	157		mg/l
Duration of exposure	3	h	
Method	OECD 209		
Source	ECHA		

xylene

Species	activated sludge			
EC50	>	157		mg/l
Duration of exposure		3	h	
Method	OECD 209			
Source	ECHA			

hexamethylene-di-isocyanate

Species	activated sludge			
EC10		299		mg/l
Duration of exposure		3	h	
Source	ECHA			

hexamethylene-di-isocyanate

Species	activated sludge			
EC50		842		mg/l
Duration of exposure		3	h	
Source	ECHA			

12.2. Persistence and degradability

General information

not determined

Physico-chemical eliminability

PU coating

Remarks	not determined

Biodegradability

PU coating

Remarks	not determined

Biodegradability (Components)

Hexamethylene-1,6-diisocyanat homopolymer

Value	2		%
Duration of test	28	d	
evaluation	not readily degradable		
Method	EU Methode C.4-E		
Source	Manufacturer's data		

hexamethylene-di-isocyanate

Value	42		%
Duration of test	28	d	
evaluation	Readily eliminable from water		
Method	EU Methode C.4-D		
Source	ECHA		

2-methoxy-1-methylethyl acetate

Value	90		%
Duration of test	28	d	
evaluation	Readily eliminable from water		
Method	OECD Guideline 301F		
Source	ECHA		

Ready degradability

PU coating

Remarks	not determined

Ready degradability (Components)

ethylbenzene

Value	70	to	80	%

Duration of test	28	d
Source	ECHA	

Chemical oxygen demand (COD)

PU coating

Remarks: not determined

Biochemical oxygen demand (BOD5)

PU coating

Remarks: not determined

12.3. Bioaccumulative potential

General information

not determined

Partition coefficient n-octanol/water (log value)

PU coating

Remarks: not determined

Octanol/water partition coefficient (log Pow) (Components)

2-methoxy-1-methylethyl acetate

log Pow	1,2	
Temperature	20	°C
Method	OECD 117	
Source	ECHA	

Bioconcentration factor (BCF)

PU coating

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

PU coating

The product contains no PBT substances

PU coating

The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

PU coating

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 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances

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.

For cured material waste key number (EAK) 08 04 10 can be applied.

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
Tunnel restriction code	E		
14.1. UN number or ID number	1866	1866	1866
14.2. UN proper shipping name	RESIN SOLUTION	RESIN SOLUTION	RESIN SOLUTION
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	III	III	III
Limited Quantity	5 l	5 l	
Transport category	3		

SECTION 15: Regulatory information

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

Major-accident categories acc. 2012/18/EU

Category	P5c	FLAMMABLE LIQUID	5.000.000	kg	50.000.000	kg

VOC

VOC (EU)	25	%	300	g/l

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)

Flam. Liq. 3	H226	On basis of test data
Acute Tox. 4	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method

Hazard statements listed in Chapter 2/3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 2/3

Acute Tox. 3	Acute toxicity, Category 3
Acute Tox. 4	Acute toxicity, Category 4

Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
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.