

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : PUR-Härter 5770, Farblos (5770.-.0010)  
Revision date : 05.10.2020  
Print date : 05.10.2020

Version (Revision) : 28.0.0 (27.0.0)

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

### 1.1 Product identifier

PUR-Härter 5770, Farblos (5770.-.0010)

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

Hardener for 2C-PUR-paints

#### Relevant identified uses

##### Products Category [PC]

Coatings and paints, thinners, paint removers

#### Remark

The product is intended for professional use. It is not suitable for use in do-it-yourself applications.

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

#### Supplier (manufacturer/importer/only representative/downstream user/distributor)

Brillux GmbH & Co. KG, Industrielack  
www.brillux-industrielack.de

Street : Otto-Hahn-Straße 14

Postal code/city : D-59423 Unna

Telephone : +49 2303 8805-0

Telefax : +49 2303 8805-119

Information contact : E-mail address of the competent person for safety data sheets: sdb@brillux-industrielack.de

### 1.4 Emergency telephone number

Giftinformationszentrum-Nord (poisons centre), consultation in german and english  
Telephone: +49 551 19 24 0

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 3 ; H226 - Flammable liquids : Category 3 ; Flammable liquid and vapour.

Acute Tox. 4 ; H332 - Acute toxicity (inhalative) : Category 4 ; Harmful if inhaled.

Skin Irrit. 2 ; H315 - Skin corrosion/irritation : Category 2 ; Causes skin irritation.

Eye Irrit. 2 ; H319 - Serious eye damage/eye irritation : Category 2 ; Causes serious eye irritation.

Skin Sens. 1 ; H317 - Skin sensitisation : Category 1 ; May cause an allergic skin reaction.

STOT SE 3 ; H335 - STOT-single exposure : Category 3 ; May cause respiratory irritation.

STOT RE 2 ; H373 - STOT-repeated exposure : Category 2 ; May cause damage to organs through prolonged or repeated exposure.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

##### Hazard pictograms



Flame (GHS02) · Health hazard (GHS08) · Exclamation mark (GHS07)

#### Signal word

Warning

#### Hazard components for labelling

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Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2  
XYLENE ; CAS No. : 1330-20-7  
ETHYLBENZENE ; CAS No. : 100-41-4

### Hazard statements

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

### 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.  
P312 Call a POISON CENTER or a doctor if you feel unwell.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

### Special rules for supplemental label elements for certain mixtures

EUH204 Contains isocyanates. May produce an allergic reaction.  
EUH208 Contains HEXAMETHYLENE-DI-ISOCYANATE. May produce an allergic reaction.

## 2.3 Other hazards

None

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous ingredients

Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2

Weight fraction :  $\geq 75 - < 80$  %  
Classification 1272/2008 [CLP] : Acute Tox. 4 ; H332 Skin Sens. 1 ; H317 STOT SE 3 ; H335

2-METHOXY-1-METHYLETHYL ACETATE ; REACH No. : 01-2119475791-29 ; EC No. : 203-603-9 ; CAS No. : 108-65-6

Weight fraction :  $\geq 10 - < 15$  %  
Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 STOT SE 3 ; H336  
Substance with a Community workplace exposure limit

XYLENE ; REACH No. : 01-2119488216-32 ; EC No. : 215-535-7 ; CAS No. : 1330-20-7

Weight fraction :  $\geq 10 - < 15$  %  
Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 Asp. Tox. 1 ; H304 STOT RE 2 ; H373 Acute Tox. 4 ; H312 Acute Tox. 4 ; H332 Skin Irrit. 2 ; H315 Eye Irrit. 2 ; H319 STOT SE 3 ; H335

ETHYLBENZENE ; REACH No. : 01-2119489370-35 ; EC No. : 202-849-4 ; CAS No. : 100-41-4

Weight fraction :  $\geq 1 - < 5$  %  
Classification 1272/2008 [CLP] : Flam. Liq. 2 ; H225 Asp. Tox. 1 ; H304 STOT RE 2 ; H373 Acute Tox. 4 ; H332 Aquatic Chronic 3 ; H412

HEXAMETHYLENE-DI-ISOCYANATE ; REACH No. : 01-2119457571-37 ; EC No. : 212-485-8 ; CAS No. : 822-06-0

Weight fraction :  $\geq 0,05 - < 0,5$  %  
Classification 1272/2008 [CLP] : Acute Tox. 3 ; H331 Resp. Sens. 1 ; H334 Skin Irrit. 2 ; H315 Skin Sens. 1 ; H317 Eye Irrit. 2 ; H319 STOT SE 3 ; H335

Specific Conc. Limits : Resp. Sens. 1 ; H334: C  $\geq 0,5$  % • Skin Sens. 1 ; H317: C  $\geq 0,5$  %

#### Additional information

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

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

Change contaminated, saturated clothing. When in doubt or if symptoms are observed, get medical advice. If unconscious place in recovery position and seek medical advice.

#### Following inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. In case of respiratory tract irritation, consult a physician.

#### In case of skin contact

Wash immediately with: Water and soap Do not wash with: Solvents/Thinner

#### After eye contact

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Protect uninjured eye.

#### After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting. No direct artificial respiration to be given by first aider.

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

No information available.

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

None

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Extinguishing powder, alcohol resistant foam, carbon dioxide (CO<sub>2</sub>), water spray.

#### Unsuitable extinguishing media

Full water jet

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

#### Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and pyrolysis products, toxic. Isocyanate vapors and traces of hydrogen cyanide.

### 5.3 Advice for firefighters

#### Special protective equipment for firefighters

Use suitable breathing apparatus.

### 5.4 Additional information

Burning produces heavy smoke. Use water spray jet to protect personnel and to cool endangered containers. Do not allow run-off from fire-fighting to enter drains or water courses.

## SECTION 6: Accidental release measures

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

Provide adequate ventilation. See protective measures under point 7 and 8.

### 6.2 Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

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

Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO<sub>2</sub>!). Keep damp

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in a safe ventilated area for several days. Treat the recovered material as prescribed in the section on waste disposal. Clean with detergents. Avoid solvent cleaners.

## 6.4 Reference to other sections

None

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Protective measures

The threshold limit values noted in Chapter 8 must be monitored. Avoid: Inhalation of vapours or spray/mists, Skin contact, Eye contact. If handled uncovered, arrangements with local exhaust ventilation should be used if possible. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. The air should be drawn away from the personnel handling the product. Never use pressure to empty container. Only allow access to authorised staff.

#### Measures to prevent fire

Keep away from sources of ignition - No smoking. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Take precautionary measures against static discharges. Wear anti-static footwear and clothing Use only antistatically equipped (spark-free) tools.

#### Advices on general occupational hygiene

Wear personal protection equipment (refer to section 8). Keep working clothes separately. Take off all contaminated clothing immediately. When using do not eat, drink, smoke, sniff. Always close containers tightly after the removal of product.

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

#### Requirements for storage rooms and vessels

Use explosion-proof machinery, apparatus, ventilation facilities, tools etc. Floors should be impervious, resistant to liquids and easy to clean. Provide adequate ventilation as well as local exhaust at critical locations. Keep container tightly closed. In case of air intake: Danger of polymerisation.

#### Hints on joint storage

Storage class (TRGS 510) : 3

#### Do not store together with

Strong acid, strong alkali, oxidising agent, food and feedingstuffs.

#### Further information on storage conditions

Keep only in the original container in a cool, well-ventilated place.

Protect against : Heat. Humidity.

### 7.3 Specific end use(s)

Hardener for 2C-PUR-paints

#### Industrial sector specific solutions

Note DGVU-Rule 100-500, section 2.29 (processing coating materials).

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values

2-METHOXY-1-METHYLETHYL ACETATE ; CAS No. : 108-65-6

Limit value type (country of origin) : TRGS 900 ( D )

Limit value : 50 ppm / 270 mg/m<sup>3</sup>

Peak limitation : 1(I)

Remark : Y

Version : 29.03.2019

Limit value type (country of origin) : STEL ( EC )

Limit value : 100 ppm / 550 mg/m<sup>3</sup>

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Remark : Skin  
Version : 20.06.2019  
Limit value type (country of origin) : TWA ( EC )  
Limit value : 50 ppm / 275 mg/m<sup>3</sup>  
Remark : Skin  
Version : 20.06.2019  
XYLENE ; CAS No. : 1330-20-7  
Limit value type (country of origin) : TRGS 900 ( D )  
Limit value : 100 ppm / 440 mg/m<sup>3</sup>  
Peak limitation : 2(II)  
Remark : H  
Version : 01.10.1993  
Limit value type (country of origin) : STEL ( EC )  
Limit value : 100 ppm / 442 mg/m<sup>3</sup>  
Version :  
Limit value type (country of origin) : TWA ( EC )  
Limit value : 50 ppm / 221 mg/m<sup>3</sup>  
Version :  
ETHYLBENZENE ; CAS No. : 100-41-4  
Limit value type (country of origin) : TRGS 900 ( D )  
Limit value : 20 ppm / 88 mg/m<sup>3</sup>  
Peak limitation : 2(II)  
Remark : H, Y  
Version : 29.03.2019  
Limit value type (country of origin) : STEL ( EC )  
Limit value : 200 ppm / 884 mg/m<sup>3</sup>  
Remark : Skin  
Version : 20.06.2019  
Limit value type (country of origin) : TWA ( EC )  
Limit value : 100 ppm / 442 mg/m<sup>3</sup>  
Remark : Skin  
Version : 20.06.2019  
HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0  
Limit value type (country of origin) : TRGS 900 ( D )  
Limit value : 0,005 ppm / 0,035 mg/m<sup>3</sup>  
Peak limitation : 1/=2=(I)  
Remark : Sa  
Version : 29.03.2019

**Remark**

Exposition assessment value (EBW) per TGRS 430: Polyisocyanate content (HDI oligomers and/or prepolymers) 75 %.  
Use an exposition assessment value of 0,5 mg/m<sup>3</sup>.

**Biological limit values**

XYLENE ; CAS No. : 1330-20-7  
Limit value type (country of origin) : TRGS 903 ( D )  
Parameter : Xylene / Whole blood (B) / End of exposure or end of shift  
Limit value : 1,5 mg/l  
Remark : 5/2013 DFG  
Version : 01.10.1993  
Limit value type (country of origin) : TRGS 903 ( D )  
Parameter : Methylhippuric acid / Urine (U) / End of exposure or end of shift  
Limit value : 2 g/l  
Version : 01.10.1993  
ETHYLBENZENE ; CAS No. : 100-41-4  
Limit value type (country of origin) : TRGS 903 ( D )

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Parameter : Mandelic acid + Phenylglyoxyl acid / Urine (U) / End of exposure or end of shift  
Limit value : 250 mg/g Kr  
Version : 29.03.2019

HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0

Limit value type (country of origin) : TRGS 903 ( D )

Parameter : hexamethylenediamine / Urine (U) / End of exposure or end of shift  
Limit value : 0,15 mg/g Kr  
Version : 29.03.2019

## DNEL-/PNEC-values

### DNEL/DMEL

2-METHOXY-1-METHYLETHYL ACETATE ; CAS No. : 108-65-6

Limit value type : DNEL/DMEL (Consumer)

Exposure route : Dermal

Exposure frequency : Long-term

Limit value : 54,8 mg/kg

Limit value type : DNEL/DMEL (Consumer)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 33 mg/m<sup>3</sup>

Limit value type : DNEL/DMEL (Consumer)

Exposure route : Oral

Exposure frequency : Long-term

Limit value : 1,67 mg/kg

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 275 mg/m<sup>3</sup>

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Dermal

Exposure frequency : Long-term

Limit value : 153,5 mg/kg

XYLENE ; CAS No. : 1330-20-7

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Inhalation

Exposure frequency : Short-term

Limit value : 289 mg/kg

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Dermal

Exposure frequency : Long-term

Limit value : 180 mg/kg

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 77 mg/kg

ETHYLBENZENE ; CAS No. : 100-41-4

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Inhalation

Exposure frequency : Short-term

Limit value : 289 mg/m<sup>3</sup>

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 77 mg/m<sup>3</sup>

Limit value type : DNEL/DMEL (Industrial)

Exposure route : Dermal

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Exposure frequency : Long-term  
Limit value : 180 mg/kg  
HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0  
Limit value type : DNEL/DMEL (Industrial)  
Exposure route : Dermal  
Exposure frequency : Short-term  
Limit value type : DNEL/DMEL (Industrial)  
Exposure route : Inhalation  
Exposure frequency : Short-term  
Limit value : 0,07 mg/m<sup>3</sup>  
Limit value type : DNEL/DMEL (Industrial)  
Exposure route : Inhalation  
Exposure frequency : Long-term  
Limit value : 0,035 mg/m<sup>3</sup>

### PNEC

2-METHOXY-1-METHYLETHYL ACETATE ; CAS No. : 108-65-6  
Limit value type : PNEC (Aquatic, freshwater)  
Exposure route : Water (Including sewage plant)  
Limit value : 0,635 mg/l  
Limit value type : PNEC (Aquatic, marine water)  
Exposure route : Water (Including sewage plant)  
Limit value : 0,0635 mg/l  
Limit value type : PNEC (Sediment, freshwater)  
Exposure route : Soil  
Limit value : 3,29 mg/kg  
Limit value type : PNEC (Sediment, marine water)  
Exposure route : Soil  
Limit value : 0,329 mg/kg  
Limit value type : PNEC soil  
Exposure route : Soil  
Limit value : 29 mg/kg  
Limit value type : PNEC (Sewage treatment plant)  
Exposure route : Water (Including sewage plant)  
Limit value : 100 mg/l  
XYLENE ; CAS No. : 1330-20-7  
Limit value type : PNEC (Aquatic, freshwater)  
Exposure route : Water (Including sewage plant)  
Limit value : 0,327 mg/l  
Limit value type : PNEC (Sediment, freshwater)  
Exposure route : Water (Including sewage plant)  
Limit value : 12,46 mg/kg  
Limit value type : PNEC soil  
Exposure route : Soil  
Limit value : 2,31 mg/kg  
Limit value type : PNEC (Sewage treatment plant)  
Exposure route : Water (Including sewage plant)  
Limit value : 6,58 mg/l

## 8.2 Exposure controls

### Personal protection equipment

#### Eye/face protection

##### Suitable eye protection

goggles

##### Recommended eye protection articles

DIN EN 166

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## Remark

Note DGUV-Rule 112-192.

## Skin protection

### Hand protection

At use as agreed a protective gloves from nitrile rubber with a material thickness 0,38 mm has to be used. Notes of the manufacturer have to be taken into account. Penetration time of the glove material: > = 60 min.

By longer or repeated contact the penetration times can be considerably shorter. The protective gloves should be replaced after the first wear out or a damage of the gloves.

**Remark :** After washing hands replace lost skin fat by fat containing skin creams. Note DGUV-Rule 112-195. Note TRGS 401.

### Body protection

**Required properties :** Antistatic, non-melting.

**Recommended material :** Natural fibres (e.g. cotton), heat-resistant synthetic fibres.

**Remark :** Note DGUV-Rule 112-189. Note TRGS 401.

## Respiratory protection

Respiratory protection necessary at: Insufficient ventilation, insufficient exhaust or spray application.

### Suitable respiratory protection apparatus

Combination filter mask A2-P2 for short-term work.

European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

### Remark

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Note TRGS 402.

## Other protection measures

Technical measures and the application of suitable work processes have priority over personal protection equipment.

## 8.3 Additional information

In case of hypersensitivity of the respiratory tract and skin (e.g. asthmatics and those who suffer from chronic bronchitis and chronic skin complaint) it is inadvisable to work with the product.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Physical state :** Liquid

**Colour :** According to product identification.

#### Odour

Like solvent.

#### Safety characteristics

<b>Melting point/freezing point :</b>			not applicable
<b>Initial boiling point and boiling range :</b>	( 1013 hPa )	>	120 °C
<b>Decomposition temperature :</b>			No data available
<b>Flash point :</b>		>	23 °C
<b>Auto-ignition temperature :</b>		approx.	460 °C
<b>Lower explosion limit :</b>			1 Vol-%
<b>Upper explosion limit :</b>			10,6 Vol-%
<b>Vapour pressure :</b>	( 50 °C )	<	50 hPa
<b>Density :</b>	( 20 °C )		1 - 1,1 g/cm <sup>3</sup>
<b>Solvent separation test :</b>	( 20 °C )	<	3 %
<b>Water solubility :</b>	( 20 °C )		practically insoluble
<b>pH :</b>			No data available
<b>log P O/W :</b>			No data available



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Flow time :	( 20 °C )		50 - 60 s	DIN-cup 4 mm
Viscosity :	( 23 °C )	approx.	250 mPa*s	
Cinematic viscosity :	( 40 °C )	> approx.	20,5 mm <sup>2</sup> /s	
Solid content :			75 Wt %	
Odour threshold :			not relevant	
Relative vapour density :	( 20 °C )		No data available	
Vapourisation rate :			No data available	
Oxidising liquids :		Not oxidising.		

## 9.2 Other information

The physical specifications are approximate values and refer to the used safety relevant component(s).

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No information available.

### 10.2 Chemical stability

CO<sub>2</sub> formation by penetration of the container with moisture.

### 10.3 Possibility of hazardous reactions

Exothermic reaction with alcohols and amines. With water gradual CO<sub>2</sub> separation. Build-up of pressure in closed containers: Danger that they might burst.

### 10.4 Conditions to avoid

In case of air intake: Danger of polymerisation.

### 10.5 Incompatible materials

No information available.

### 10.6 Hazardous decomposition products

When exposed to high temperatures (> 200 °C) or in case of fire hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen may produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Acute oral toxicity

Parameter :	ATEmix calculated
Exposure route :	Oral
Effective dose :	not relevant
Parameter :	LD50 ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )
Exposure route :	Oral
Species :	Rat
Effective dose :	> 5000 mg/kg
Parameter :	LD50 ( XYLENE ; CAS No. : 1330-20-7 )
Exposure route :	Oral
Species :	Rat
Effective dose :	8700 mg/kg
Parameter :	LD50 ( ETHYLBENZENE ; CAS No. : 100-41-4 )
Exposure route :	Oral
Species :	Rat
Effective dose :	3500 mg/kg
Parameter :	LD50 ( HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0 )
Exposure route :	Oral
Species :	Rat

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Effective dose : 710 mg/kg

### Acute dermal toxicity

Parameter : ATEmix calculated  
Exposure route : Dermal  
Effective dose : 10891 mg/kg  
Parameter : LD50 ( XYLENE ; CAS No. : 1330-20-7 )  
Exposure route : Dermal  
Species : Rabbit  
Effective dose : > 2000 mg/kg  
Parameter : LD50 ( ETHYLBENZENE ; CAS No. : 100-41-4 )  
Exposure route : Dermal  
Species : Rabbit  
Effective dose : 5000 mg/kg  
Parameter : LD50 ( HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0 )  
Exposure route : Dermal  
Species : Rabbit  
Effective dose : 570 mg/kg

### Acute inhalation toxicity

Parameter : ATEmix calculated  
Exposure route : Inhalation (vapour)  
Effective dose : 12,4 mg/l  
Parameter : LC50 ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : 0,54 mg/l  
Exposure time : 4 h  
Parameter : LC50 ( XYLENE ; CAS No. : 1330-20-7 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : 6350 mg/l  
Parameter : LC50 ( HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : 0,124 mg/l  
Exposure time : 4 h  
Parameter : LC50 ( HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0 )  
Exposure route : Inhalation  
Species : Mouse  
Effective dose : 1,57 mg/l

### Corrosion

#### Skin corrosion/irritation

Parameter : Skin corrosion/irritation ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )  
Species : Rabbit

#### Irritation to respiratory tract

May cause respiratory irritation.

### Repeated dose toxicity (subacute, subchronic, chronic)

#### Subacute inhalation toxicity

Parameter : NOEL(C) ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : 3,7 mg/m<sup>3</sup>

### STOT-single exposure

#### STOT SE 3

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#### **Narcotic effects**

Vapours may cause drowsiness and dizziness.

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

#### **In case of skin contact**

Repeated exposure may cause skin dryness or cracking.

### **11.5 Additional information**

Special properties/effects: Over-exposure entails the risk of concentration-dependent irritating effects on eyes, nose throat, and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Workplace Exposure Limit (WEL). Prolonged contact with the skin may cause tanning and irritant effects.

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

#### **Aquatic toxicity**

##### **Acute (short-term) fish toxicity**

Parameter :	LC50 ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )
Species :	Ictalurus punctatus (Channel Catfish)
Effective dose :	> 100 mg/l
Exposure time :	96 h
Parameter :	LC50 ( XYLENE ; CAS No. : 1330-20-7 )
Species :	Oncorhynchus mykiss (Rainbow trout)
Effective dose :	2,6 mg/l
Exposure time :	96 h
Method :	OECD 203
Parameter :	LC50 ( HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0 )
Species :	Brachydanio rerio (zebra-fish)
Effective dose :	22 mg/l
Exposure time :	96 h

##### **Chronic (long-term) fish toxicity**

Parameter :	NOEC ( XYLENE ; CAS No. : 1330-20-7 )
Species :	Oncorhynchus mykiss (Rainbow trout)
Effective dose :	> 1,3 mg/l
Exposure time :	56 D

##### **Acute (short-term) toxicity to crustacea**

Parameter :	EC50 ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )
Species :	Daphnia magna (Big water flea)
Effective dose :	> 100 mg/l
Exposure time :	48 h
Parameter :	EC50 ( XYLENE ; CAS No. : 1330-20-7 )
Species :	Daphnia magna (Big water flea)
Effective dose :	1 mg/l
Exposure time :	24 h
Method :	OECD 202

##### **Chronic (long-term) toxicity to crustacea**

Parameter :	NOEC ( XYLENE ; CAS No. : 1330-20-7 )
Species :	Daphnia
Effective dose :	1,17 mg/l
Exposure time :	7 D

##### **Acute (short-term) toxicity to aquatic algae and cyanobacteria**

Parameter :	ErC50 ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )
Species :	Scenedesmus subspicatus
Effective dose :	> 100 mg/l

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Exposure time : 72 h  
Parameter : EC50 ( XYLENE ; CAS No. : 1330-20-7 )  
Species : Pseudokirchneriella subcapitata  
Effective dose : 2,2 mg/l  
Exposure time : 72 h  
Method : OECD 201

#### Chronic (long-term) algae toxicity

Parameter : NOEC ( XYLENE ; CAS No. : 1330-20-7 )  
Species : Pseudokirchneriella subcapitata  
Effective dose : 0,44 mg/l  
Exposure time : 72 h

#### Toxicity to microorganisms

Parameter : EC50 ( Hexamethylene-1,6-diisocyanate Homopolymer ; CAS No. : 28182-81-2 )  
Species : Mysisidopsis bahia  
Effective dose : > 100 mg/l  
Exposure time : 3 h

### 12.2 Persistence and degradability

Is converted in connection with water in a solid, insoluble and inert polyurea, liberating CO<sub>2</sub>.

#### Biodegradation

The solvent is biodegradable. In accordance with the required stability the product is poorly biodegradable.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6 Other adverse effects

No information available.

### 12.7 Additional ecotoxicological information

#### Additional information

Do not allow uncontrolled discharge of product into the environment.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Dispose of waste according to applicable legislation.

#### Directive 2008/98/EC (Waste Framework Directive)

##### Before intended use

##### Waste codes/waste designations according to EWC/AVV

08 05 01\* (Waste isocyanates)

##### After intended use

##### Waste codes/waste designations according to EWC/AVV

Uncleaned packaging: 15 01 10\* (Packaging containing residues of or contaminated by dangerous substances) Cleaned packaging: 15 01 04 (Metallic packaging)

##### Other disposal recommendations

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

### 13.2 Additional information

Note sections 7 and 8.

## SECTION 14: Transport information

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## 14.1 UN number

UN 1866

## 14.2 UN proper shipping name

### Land transport (ADR/RID)

RESIN SOLUTION

### Sea transport (IMDG)

RESIN SOLUTION

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

RESIN SOLUTION

## 14.3 Transport hazard class(es)

### Land transport (ADR/RID)

Class(es) : 3  
Classification code : F1  
Hazard identification number (Kemler No.) : 30  
Tunnel restriction code : D/E  
Special provisions : LQ 51 · E 1  
Hazard label(s) : 3

### Sea transport (IMDG)

Class(es) : 3  
EmS-No. : F-E / S-E  
Special provisions : LQ 51 · E 1  
Hazard label(s) : 3

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

Class(es) : 3  
Special provisions : E 1  
Hazard label(s) : 3

## 14.4 Packing group

III

## 14.5 Environmental hazards

Land transport (ADR/RID) : No

Sea transport (IMDG) : No

Air transport (ICAO-TI / IATA-DGR) : No

## 14.6 Special precautions for user

None

## SECTION 15: Regulatory information

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

#### EU legislation

##### Authorisations and/or restrictions on use

##### Restrictions on use

Use restriction according to REACH annex XVII, no. : 3, 40

##### Restrictions of occupation

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).  
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### National regulations

##### Technische Anleitung Luft (TA-Luft)

Weight fraction (Number 5.2.5. I) : < 0,5 %

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## Water hazard class (WGK)

Classification according to AwSV - Class : 2 (Obviously hazardous to water)

## Other regulations, restrictions and prohibition regulations

Note TRGS 001. Note TRGS 400. Note TRGS 430 - isocyanate. Note BG RCI M 044 (BGI 524) "Polyurethan-production and processing / Isocyanate" and M 017 (BGI 621) "Solvents".

## Additional information

### Berufsgenossenschaftliche Vorschriften (BGV)

Product code in accordance to GISBAU (hazardous materials information system of the German professional associations of the building and construction industry): PU50.

## 15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

## 15.3 Additional information

The European Committee of Paint, Printing Ink and Artists' Colours Manufacturers' Associations (CEPE) provides the following information on coatings containing isocyanates: Ready-to-use paints containing isocyanates may have an irritant effect on mucous membranes - especially on breathing organs - and cause hypersensitivity reactions. Inhalation of vapor or spray mist may cause sensitisation. When handling paints containing isocyanates all precautions required for solvent-containing paints must be followed. Vapor and spray mist in particular should not be inhaled. Allergics and asthmatics as well as people prone to respiratory ailments should not work with isocyanate containing paints.

## SECTION 16: Other information

### 16.1 Indication of changes

02. Labelling according to Regulation (EC) No. 1272/2008 [CLP] - Hazard components for labelling · 15. Restrictions on use

### 16.2 Abbreviations and acronyms

AwSV: Ordinance on plants for the handling of substances hazardous to water. BGR(I): Rule (Information) from the German employers liability insurance association. DGUV: German Statutory Accident Insurance. EWC: European Waste Catalogue. TRGS: German Technical Rule for Hazardous Substances. VCI: German chemical industry association.

### 16.3 Key literature references and sources for data

None

### 16.4 Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Calculation method.

### 16.5 Relevant H- and EUH-phrases (Number and full text)

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.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

### 16.6 Training advice

None

### 16.7 Additional information

The product is used mainly as a hardener in coating materials. The handling of coating materials containing reactive polyisocyanates and residual monomeric HDI requires appropriate protective measures referred to in this safety data sheet. These products may therefore be used only in industrial or trade applications. They are not suitable for use in homemaker (DIY) applications.

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The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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