

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878

**VFL**  
Vismara Farbladen

Article No.: 947  
Print date: 27.12.2022  
Version: 8.0

BRILALUX DD72 Härter  
Revision date: 10.12.2022  
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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1. product identifiers**

Article No. (manufacturer/supplier) 947  
Trade name/designation BRILALUX DD72 Härter  
farblos

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

**Relevant identified uses:**

Coating material to protecting surfaces

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

**supplier (manufacturer/importer/downstream user/distributor)**

Vismara Unternehmungen CH-5000 Aarau www.farbladen.ch

**Department responsible for information:**

laboratory Manager

E-mail (competent person)

info@knuchel.ch

**1.4. Emergency telephone number**

Emergency telephone number 145 (+41 (0)44 251 51 51)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

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

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

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

Flammable liquids  
Acute toxicity (inhalative)  
Skin corrosion/irritation  
Serious eye damage/eye irritation  
Respiratory or skin sensitisation  
STOT-single exposure  
STOT-repeated exposure

Flammable liquid and vapour.  
Harmful if inhaled.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.  
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**



**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**

P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P103 Read carefully and follow all instructions.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof electrical equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
P260 Do not breathe vapour.

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P261	Avoid breathing vapours.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves and eye/face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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.
P312	Call a POISON CENTER or doctor/physician 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.
P370 + P378	In case of fire: Use extinguishing powder or sand to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Keep locked up.
P501	Dispose of contents/container to industrial incineration plant.

**Hazard components for labelling**

hexamethylene-di-isocyanate  
 HDI-homopolymers  
 Xylene

**Supplemental hazard information**

EUH204 Contains isocyanates. May produce an allergic reaction.

2.3. **Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**

3.2. **Mixtures**

**Description** polyisocyanate hardener, containing the following hazardous substances:

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

EC No. CAS No. Index No.	REACH No. Designation classification // Remark	weight-%
500-060-2 28182-81-2	01-2119488934-20 HDI-homopolymers Acute Tox. 4 H332 / Skin Sens. 1 H317 / STOT SE 3 H335	60 - 80
203-603-9 108-65-6 607-195-00-7	01-2119475791-29 2-methoxy-1-methylethyl acetate Flam. Liq. 3 H226 Substance with a common (EC) occupational exposure limit value.	10 - 15
215-535-7 1330-20-7 601-022-00-9	01-2119488216-32 Xylene Acute Tox. 4 H312 / Acute Tox. 4 H332 / Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / STOT SE 3 H335 / STOT RE 2 H373 / Asp. Tox. 1 H304 / Flam. Liq. 3 H226	10 - 15
202-849-4 100-41-4 601-023-00-4	01-2119489370-35 ethylbenzene Flam. Liq. 2 H225 / Acute Tox. 4 H332 / STOT RE 2 H373 / Asp. Tox. 1 H304	1 - 5
212-485-8 822-06-0 615-011-00-1	01-2119457571-37 hexamethylene-di-isocyanate Acute Tox. 3 H331 / Eye Irrit. 2 H319 / STOT SE 3 H335 / Skin Irrit. 2 H315 / Resp. Sens. 1 H334 / Skin Sens. 1 H317 Specific concentration limit (SCL): Resp. Sens. 1 H334 >= 0.5 / Skin Sens. 1 H317 >= 0.5 Acute toxicity estimate (ATE), ATE (inhalation, vapour): 0.12 mg/L	0.1 - 0.5

**Additional information**

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Full text of classification: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

#### In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

#### Following skin contact

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

#### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

#### Following ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

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

In all cases of doubt, or when symptoms persist, seek medical advice.

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

First Aid, decontamination, treatment of symptoms.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

#### Unsuitable extinguishing media

strong water jet

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

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

### 5.3. Advice for firefighters

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

## SECTION 6: Accidental release measures

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

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

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

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Clean using cleansing agents. Do not use solvents.

### 6.4. Reference to other sections

Observe protective provisions (see section 7 and 8).

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advices on safe handling

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must

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be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

#### Further information

Vapours are heavier than air. Vapours form explosive mixtures with air.

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

##### Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

##### Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers.

##### Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 15 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

#### 7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limit values:

2-methoxy-1-methylethyl acetate

Index No. 607-195-00-7 / EC No. 203-603-9 / CAS No. 108-65-6

WEL, TWA: 274 mg/m<sup>3</sup>; 50 ppm

WEL, STEL: 548 mg/m<sup>3</sup>; 100 ppm

Remark: (may be absorbed through the skin)

Xylene

Index No. 601-022-00-9 / EC No. 215-535-7 / CAS No. 1330-20-7

WEL, TWA: 220 mg/m<sup>3</sup>; 50 ppm

WEL, STEL: 441 mg/m<sup>3</sup>; 100 ppm

Remark: (may be absorbed through the skin)

BMGV, TWA: 650 mmol/mol creatinine

Remark: methyl hippuric acid; urine; end of exposure or end of shift

ethylbenzene

Index No. 601-023-00-4 / EC No. 202-849-4 / CAS No. 100-41-4

WEL, TWA: 441 mg/m<sup>3</sup>; 100 ppm

WEL, STEL: 552 mg/m<sup>3</sup>; 125 ppm

Remark: (may be absorbed through the skin)

##### Additional information

TWA : Long-term occupational exposure limit value

STEL : short-term occupational exposure limit value

Ceiling : peak limitation

##### DNEL:

Xylene

Index No. 601-022-00-9 / EC No. 215-535-7 / CAS No. 1330-20-7

DNEL long-term dermal (systemic), Workers: 212 mg/kg bw/day

DNEL acute inhalative (local), Workers: 442 mg/m<sup>3</sup>

DNEL acute inhalative (systemic), Workers: 442 mg/m<sup>3</sup>

DNEL long-term inhalative (local), Workers:

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DNEL long-term inhalative (systemic), Workers: 221 mg/m<sup>3</sup>  
DNEL long-term oral (repeated), Consumer: 12,5 mg/kg bw/day  
DNEL long-term dermal (systemic), Consumer: 125 mg/kg bw/day  
DNEL acute inhalative (local), Consumer: 260 mg/m<sup>3</sup>  
DNEL acute inhalative (systemic), Consumer: 260 mg/m<sup>3</sup>  
DNEL long-term inhalative (local), Consumer: 65,3 mg/m<sup>3</sup>  
DNEL long-term inhalative (systemic), Consumer: 65,3 mg/m<sup>3</sup>

#### ethylbenzene

Index No. 601-023-00-4 / EC No. 202-849-4 / CAS No. 100-41-4  
DNEL long-term dermal (systemic), Workers: 180 mg/kg bw/day  
DNEL long-term inhalative (systemic), Workers: 77 mg/m<sup>3</sup>  
DNEL long-term oral (repeated), Consumer: 1,6 mg/kg bw/day  
DNEL long-term inhalative (systemic), Consumer: 15 mg/m<sup>3</sup>

#### hexamethylene-di-isocyanate

Index No. 615-011-00-1 / EC No. 212-485-8 / CAS No. 822-06-0  
DNEL acute inhalative (local), Workers: 0,07 mg/m<sup>3</sup>  
DNEL long-term inhalative (systemic), Workers: 0,035 mg/m<sup>3</sup>

#### 2-methoxy-1-methylethyl acetate

Index No. 607-195-00-7 / EC No. 203-603-9 / CAS No. 108-65-6  
DNEL long-term oral (repeated), Workers: 1,67 mg/kg  
DNEL long-term dermal (systemic), Workers: 54,8 mg/kg  
DNEL long-term inhalative (systemic), Workers: 33 mg/m<sup>3</sup>

#### HDI-homopolymers

EC No. 500-060-2 / CAS No. 28182-81-2  
DNEL acute inhalative (local), Workers: 1 mg/m<sup>3</sup>  
DNEL long-term inhalative (local), Workers: 0,5 mg/m<sup>3</sup>

#### **PNEC:**

##### Xylene

Index No. 601-022-00-9 / EC No. 215-535-7 / CAS No. 1330-20-7  
PNEC aquatic, freshwater: 0,327 mg/L  
PNEC aquatic, marine water: 0,327 mg/L  
PNEC sediment, freshwater: 12,46 mg/kg  
PNEC sediment, marine water: 12,46 mg/kg  
PNEC sewage treatment plant (STP): 6,58 mg/L  
soil: 2,31 mg/kg

##### ethylbenzene

Index No. 601-023-00-4 / EC No. 202-849-4 / CAS No. 100-41-4  
PNEC aquatic, freshwater: 0,1 mg/L  
PNEC aquatic, marine water: 0,01 mg/L  
PNEC sediment, freshwater: 13,7 mg/kg  
PNEC sediment, marine water: 1,37 mg/kg  
PNEC, soil: 2,68 mg/kg  
PNEC sewage treatment plant (STP): 9,6 mg/L

##### 2-methoxy-1-methylethyl acetate

Index No. 607-195-00-7 / EC No. 203-603-9 / CAS No. 108-65-6  
PNEC aquatic, freshwater: 0,635 mg/cm<sup>3</sup>  
PNEC aquatic, marine water: 0,0635 mg/cm<sup>3</sup>  
PNEC aquatic, intermittent release: 6,35 mg/cm<sup>3</sup>  
PNEC sediment, freshwater: 3,29 mg/cm<sup>3</sup>  
PNEC sediment, marine water: 0,329 mg/cm<sup>3</sup>  
PNEC, soil: 0,29 mg/m<sup>3</sup>  
PNEC sewage treatment plant (STP): 100 mg/cm<sup>3</sup>

##### HDI-homopolymers

EC No. 500-060-2 / CAS No. 28182-81-2  
PNEC aquatic, freshwater: 0,127 mg/L  
PNEC aquatic, marine water: 0,0127 mg/L  
PNEC sediment, freshwater: 266700 mg/kg Sediment dry weight  
PNEC sediment, marine water: 266700 mg/kg Sediment dry weight  
PNEC, soil: 53182 mg/kg

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PNEC sewage treatment plant (STP): 38,28 mg/L

## 8.2. Exposure controls

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

### Personal protection equipment

#### **Respiratory protection**

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Use only respiratory protection equipment with CE-symbol including four digit test number.

#### **Hand protection**

For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber)

Thickness of the glove material > 0,4 mm ; Breakthrough time: > 480 min.

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### **Eye/face protection**

Wear closely fitting protective glasses in case of splashes.

#### **Body protection**

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

#### **Protective measures**

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

### Environmental exposure controls

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

## SECTION 9: Physical and chemical properties

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

<b>Physical state:</b>	<b>Liquid</b>
<b>Colour:</b>	<b>refer to label</b>
<b>Odour:</b>	<b>characteristic</b>
<b>Odour threshold:</b>	<b>not applicable</b>
<b>Melting point/freezing point:</b>	<b>not applicable</b>
<b>Initial boiling point and boiling range:</b>	<b>139 °C</b> Source: Xylene
<b>Flammability:</b>	<b>Flammable liquid and vapour.</b>
<b>Lower and upper explosion limit:</b>	
<b>Lower explosion limit:</b>	<b>1.04 Vol-%</b>
<b>Upper explosion limit:</b>	<b>8 Vol-%</b> Source: Xylene
<b>Flash point:</b>	<b>25 °C</b> Method: DIN 53213
<b>Auto-ignition temperature:</b>	<b>333 °C</b> Source: 2-methoxy-1-methylethyl acetate
<b>Decomposition temperature:</b>	<b>not applicable</b>
<b>pH at 20 °C:</b>	<b>not applicable</b>
<b>Cinematic viscosity (40°C):</b>	<b>&lt; 80 mm<sup>2</sup>/s</b>
<b>Viscosity at 20 °C:</b>	<b>180 - 260 mPas</b>
<b>Solubility(ies):</b>	
<b>Water solubility at 20 °C:</b>	<b>insoluble</b>
<b>Partition coefficient: n-octanol/water:</b>	<b>see section 12</b>
<b>Vapour pressure at 20 °C:</b>	<b>8 mbar</b> Source: Xylene
<b>Density and/or relative density:</b>	

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<b>Density at 20 °C:</b>	<b>1.07 g/cm<sup>3</sup></b>
<b>Relative vapour density:</b>	<b>not applicable</b>
<b>particle characteristics:</b>	<b>not applicable</b>
<b>9.2. Other information</b>	
<b>Solid content:</b>	<b>75 weight-%</b>
<b>solvent content:</b>	
<b>Organic solvents:</b>	<b>25 weight-%</b>
<b>Water:</b>	<b>0 weight-%</b>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No information available.

### 10.2. Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

### 10.3. Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

### 10.4. Conditions to avoid

Hazardous decomposition byproducts may form with exposure to high temperatures.

### 10.5. Incompatible materials

not applicable

### 10.6. Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

## SECTION 11: Toxicological information

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

#### Acute toxicity

Harmful if inhaled.

#### Xylene

oral, LD50, Rat, male: 5,523 mg/kg

Method: EU Test B.1

inhalative (vapours), LC50, Rat, male: 6700 ppm (4 h)

#### ethylbenzene

oral, LD50, Rat: 3,5 mg/kg

dermal, LD50, Rabbit: 15,4 mg/kg

#### hexamethylene-di-isocyanate

oral, LD50, Rat: 746 mg/kg

Method: OECD 401

dermal, LD50, Rat: > 7000 mg/kg

Method: OECD 402

dermal, LD50, Rabbit: 570 mg/kg

inhalative (vapours), LC50, Rat: 0,124 mg/L (4 h)

Method: OECD 403

inhalative (vapours), LC50, Mouse: 1,57 mg/L

#### 2-methoxy-1-methylethyl acetate

dermal, LD50, Rabbit: > 2000 mg/kg

#### HDI-homopolymers

dermal, LD50, Rat: > 2000 mg/kg

Method: OECD 402

inhalative (vapours), LC50, Rat: 543 mg/L (4 h)

Method: OECD 403

inhalative (vapours), LC50, Rat, female: 390 mg/m<sup>3</sup> (4 h)

Method: OECD 403

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## Skin corrosion/irritation; Serious eye damage/eye irritation

Causes skin irritation.

Causes serious eye irritation.

ethylbenzene

Skin, Rabbit (24 h)

Causes mild skin irritation.

eyes, Rabbit

Causes slight eye irritation

hexamethylene-di-isocyanate

Skin (4 h)

Method: OECD 404

Corrosive

eyes

Method: OECD 405

Causes serious eye irritation.; Causes serious eye damage.

2-methoxy-1-methylethyl acetate

Skin (4 h)

Method: OECD 404

Not to be classified as skin etching/irritant.

eyes

Not to be classified as severe eye damage or eye irritation.

HDI-homopolymers

Skin, Rabbit (4 h)

Method: OECD 404

mild irritant.

eyes, Rabbit

Method: OECD 405

mild irritant.

## Respiratory or skin sensitisation

May cause an allergic skin reaction.

hexamethylene-di-isocyanate

Skin, Guinea pig: ; Evaluation positive

Method: OECD 406

Respiratory system, Guinea pig: ; Evaluation positive

Method: OECD 406

2-methoxy-1-methylethyl acetate

Skin: ; Evaluation not sensitising.

Method: OECD 406

Respiratory system:

No data available

HDI-homopolymers

Skin, Guinea pig: ; Evaluation sensitising

Method: OECD 406

Magnuson/Klingmann test

Respiratory system, Guinea pig: ; Evaluation sensitising

Method: OECD 406

Magnuson/Klingmann test

## CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

ethylbenzene

Germ cell mutagenicity; Evaluation negative

Hamster; Mouse; ovaries

Carcinogenicity; Evaluation Carc. Cat. 2

Method: Group II B (IARC): Possible carcinogenic to humans (ethylbenzene)

human

hexamethylene-di-isocyanate

Germ cell mutagenicity



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Mutagenicity (mammalian cell test): chromosome aberration. Ovarian cells of Chinese hamster Result: negative

Carcinogenicity

Showed no carcinogenic effect in animal experiments.

Reproductive toxicity

No effect on fertility in animal studies.

Genotoxicity in vivo; Evaluation negative

Method: OECD 474

Mouse; Inhalation; bone marrow

Genotoxicity in vitro; Evaluation negative

Method: Ames test

Salmonella typhimurium

teratogenicity

Did not show any fruit-damaging effect in animal experiments.

2-methoxy-1-methylethyl acetate

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Lactation

No data available

HDI-homopolymers

Germ cell mutagenicity

The product showed no mutagenic properties in bacteria and mammalian cell cultures.

Carcinogenicity

No data available

Reproductive toxicity

No data available

## STOT-single exposure; STOT-repeated exposure

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

Xylene

Specific target organ toxicity (repeated exposure)

Liver and kidney damage; central nervous system

Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

Liver and kidney damage; central nervous system; hearing organs

ethylbenzene

Repeated dose toxicity, Rat: 75 mg/kg

Method OECD 407

RTECS-no.: DA0700000

Depression of central nervous system

movement disorders; headache; Vomiting

hexamethylene-di-isocyanate

Specific target organ toxicity (single exposure)

May cause respiratory irritation.; Target organs: Respiratory system

Specific target organ toxicity (repeated exposure)

No data available

2-methoxy-1-methylethyl acetate

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

HDI-homopolymers

Specific target organ toxicity (single exposure) Evaluation May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) Evaluation After repeated recording, the local irritant effect is in the foreground.

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according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878

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## Aspiration hazard

2-methoxy-1-methylethyl acetate

Aspiration hazard

Not to be classified as aspirational.

HDI-homopolymers

Aspiration hazard; Evaluation No danger of aspiration to be assumed.

## Practical experience/human evidence

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: headache, dizziness, fatigue, amyosthenia, drowsiness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage.

## Overall assessment on CMR properties

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

### 11.2. Information on other hazards

#### Endocrine disrupting properties

No information available.

## SECTION 12: Ecological information

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

Do not allow to enter into surface water or drains.

### 12.1. Toxicity

Xylene

Fish toxicity, LC50, fish: 2,6 mg/L (96 h)

Method: OECD 203

Algae toxicity, ErC50, Pseudokirchneriella subcapitata: 4,6 mg/L (72 h)

Method: OECD 201

Algae toxicity, EC50, Pseudokirchneriella subcapitata: 4,6 mg/L (72 h)

Method: OECD 201

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout) (96 h)

Method: OECD 203

Daphnia toxicity, IC50, Daphnia magna: 1 mg/L (24 h)

Method: OECD 202

Algae toxicity, EC50, Selenastrum capricornutum: 2,2 mg/L (73 h)

Method: OECD 201

Daphnia toxicity, growth test (Eb-Cx) 10%“, Daphnia magna: 1,91 mg/L (21 d)

Method: OECD 211

Bacteria toxicity, NOEC, Activated sludge: 16 mg/L (28 t)

Method: OECD 301 F

ethylbenzene

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 4,2 mg/L (96 h)

Daphnia toxicity, EC50, Daphnia magna (Big water flea) 1,8 - 2,4 mg/L (48 h)

Algae toxicity, EC50, Skeletonema costatum: 4,9 mg/L (72 h)

Algae toxicity, EC50, Pseudokirchneriella subcapitata: 7,2 mg/L (48 h)

Shellfish Toxicity, LC50, Mysidopsis bahia: > 5,2 mg/L (48 h)

Toxicity of Microorganisms, EC50, microorganisms: 96 mg/L (24 h)

hexamethylene-di-isocyanate

Fish toxicity, LC50, Danio rerio (zebrafish): 22 mg/L (96 h)

Algae toxicity, ErC50, Desmodesmus subspicatus: > 77,4 mg/L (72 h)

Method: OECD 201

accompanying analysis: yes

growth inhibition, NOEC, Desmodesmus subspicatus: 11,7 mg/L (72 h)

Method: OECD 201

accompanying analysis: yes

Bacteria toxicity, EC0, Pseudomonas putida: 100 mg/L (24 h)

(IUCLID)

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respiratory inhibition, EC50, Activated sludge: 842 mg/L (3 h)  
Method: OECD 209

#### HDI-homopolymers

Fish toxicity, LC50, Danio rerio (zebrafish): > 100 mg/L (96 h)

Method: OECD 203

Daphnia toxicity, EC50, Daphnia magna: > 100 mg/L (48 h)

Method: OECD 202

Algae toxicity, IC50, Scenedesmus subspicatus: > 100 mg/L (72 h)

Method: OECD 201

Bacteria toxicity, EC50, Activated sludge: 1000 mg/L (3 h)

Method: OECD 209

#### Long-term Ecotoxicity

##### Xylene

Algae toxicity, ErC50, Pseudokirchneriella subcapitata: 4,36 mg/L (73 h)

Method: OECD 201

Fish toxicity, NOEC, fish: > 1,3 mg/L (56 d)

Daphnia toxicity, NOEC, Daphnia pulex (water flea): 1,17 mg/L (7 d)

Method: US EPA 600/4-91-003

Daphnia toxicity, EL50, Daphnia magna: 2,9 mg/L (21 d)

Method: OECD 211

Algae toxicity, EC50, Pseudokirchneriella subcapitata: 2,2 mg/L (73 h)

Method: OECD 201

Daphnia toxicity, LOEC:, Daphnia magna (Big water flea): 3,16 mg/L (21 d)

Method: OECD 211

Algae toxicity, growth test (Eb-Cx) 10%<sup>o</sup>, Pseudokirchneriella subcapitata: 0,72 mg/L (73 h)

Method: OECD 201

##### ethylbenzene

Daphnia toxicity, NOEC, Ceriodaphnia dubia (Wasserfloh): 0,96 mg/L (7 d)

Daphnia toxicity, LC50, Ceriodaphnia dubia (Wasserfloh): 3,6 mg/L (7 d)

Bacteria toxicity, EC50, Nitrosomonas sp: 96 mg/L (24 h)

Algae toxicity, NOEC, Pseudokirchneriella subcapitata: 3,4 mg/L (96 h)

Daphnia toxicity, LOEC:, Ceriodaphnia dubia (Wasserfloh): 1,7 mg/L (7 d)

#### 12.2. Persistence and degradability

##### Xylene

Persistence and degradability:

Method: Rapid photochemical oxidation in air

Biodegradation: 98 percent (28 d)

Readily biodegradable (according to OECD criteria)

##### ethylbenzene

Biodegradation, aerobic: 70 - 80 percent (28 d); Evaluation Readily biodegradable (according to OECD criteria)

##### hexamethylene-di-isocyanate

Biodegradation: < 0,0001 percent (28 d); Evaluation Poorly eliminated from water.

Method: OECD 302C

##### 2-methoxy-1-methylethyl acetate

Persistence and degradability:

No data available

Biodegradation: Evaluation Readily biodegradable (according to OECD criteria).

##### HDI-homopolymers

Biodegradation: Evaluation Not readily biodegradable (according to OECD criteria)

Method: OECD 301C

#### 12.3. Bioaccumulative potential

##### Xylene

Distribution coefficient n-octanol/water (log KOW): 3,49

##### ethylbenzene

Distribution coefficient n-octanol/water (log KOW): 3,6

##### 2-methoxy-1-methylethyl acetate

Distribution coefficient n-octanol/water (log KOW): 1,2

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HDI-homopolymers  
Distribution coefficient n-octanol/water (log KOW):  
No data available

#### 12.4. Mobility in soil

Xylene  
soil: Evaluation Absorbs slowly into the soil  
Water: Evaluation Floats on the water

HDI-homopolymers  
soil:  
No data 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. Endocrine disrupting properties

No information available.

#### 12.7. Other adverse effects

No information available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Dispose of waste according to applicable legislation.

##### List of proposed waste codes/waste designations in accordance with EWC

080111\* Waste paint and varnish containing organic solvents or other dangerous substances

\*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

##### Appropriate disposal / Package Recommendation

##### Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

### SECTION 14: Transport information

#### 14.1. UN number or ID number

UN 1263

#### 14.2. UN proper shipping name

Land transport (ADR/RID): Paint  
Sea transport (IMDG): PAINT  
Air transport (ICAO-TI / IATA-DGR): Paint

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

III

#### 14.5. Environmental hazards

Land transport (ADR/RID) not applicable  
Marine pollutant not applicable

#### 14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

##### Further information

##### Land transport (ADR/RID)

Tunnel restriction code D/E

##### Sea transport (IMDG)

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EmS-No. F-E, S-E

**14.7. Maritime transport in bulk according to IMO instruments**

No transport as bulk according IBC - Code.

**SECTION 15: Regulatory information**

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

**EU legislation**

**Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]**

VOC-value (in g/L): 273

**National regulations**

**Restrictions of occupation**

Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable.

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

**15.2. Chemical Safety Assessment**

**For the following substances of this mixture a chemical safety assessment has been carried out:**

EC No. CAS No.	Designation	REACH No.
500-060-2 28182-81-2	HDI-homopolymers	01-2119488934-20
203-603-9 108-65-6	2-methoxy-1-methylethyl acetate	01-2119475791-29
215-535-7 1330-20-7	Xylene	01-2119488216-32
202-849-4 100-41-4	ethylbenzene	01-2119489370-35
212-485-8 822-06-0	hexamethylene-di-isocyanate	01-2119457571-37

**SECTION 16: Other information**

**Full text of classification in section 3**

Acute Tox. 4 / H332	Acute toxicity (inhalative)	Harmful if inhaled.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory irritation.
Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
Acute Tox. 4 / H312	Acute toxicity (dermal)	Harmful in contact with skin.
Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
STOT RE 2 / H373	STOT-repeated exposure	May cause damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Asp. Tox. 1 / H304	Aspiration hazard	May be fatal if swallowed and enters airways.
Flam. Liq. 2 / H225	Flammable liquids	Highly flammable liquid and vapour.
Acute Tox. 3 / H331	Acute toxicity (inhalative)	Toxic if inhaled.
Resp. Sens. 1 / H334	Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Classification procedure**

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

Flam. Liq. 3	Flammable liquids	On basis of test data.
Acute Tox. 4	Acute toxicity (inhalative)	Calculation method.
Skin Irrit. 2	Skin corrosion/irritation	Calculation method.
Eye Irrit. 2	Serious eye damage/eye irritation	Calculation method.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.
STOT RE 2	STOT-repeated exposure	Calculation method.

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## Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

## Further information

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

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in section 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.