

Article No.: 993
Print date: 27.12.2022
Version: 7.0

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

1.1. product identifiers

Article No. (manufacturer/supplier) 993
Trade name/designation Härter zu Bricafil DD-993
MV 8:1

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

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	Flammable liquids	Flammable liquid and vapour.
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.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.

2.2. Label elements

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

Hazard pictograms



Warning

Hazard statements

H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

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.
P261 Avoid breathing vapours.
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.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

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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

HDI-homopolymers
 n-butyl acetate
 hexamethylene-di-isocyanate
 Isophorone diisocyanate oligomer

Supplemental hazard information

EUH066 Repeated exposure may cause skin dryness or cracking.
 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	40 - 60
204-658-1 123-86-4 607-025-00-1	01-2119485493-29 n-butyl acetate Flam. Liq. 3 H226 / STOT SE 3 H336 / EUH066	25 - 40
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.	5 - 10
500-125-5 53880-05-0	01-2119488734-24 Isophorone diisocyanate oligomer Skin Sens. 1 H317 / STOT SE 3 H335	5 - 10
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	5 - 10
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

Full text of classification: see section 16

SECTION 4: First aid measures

4.1. **Description of first aid measures**

General information

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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 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

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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/m³; 50 ppm

WEL, STEL: 548 mg/m³; 100 ppm

Remark: (may be absorbed through the skin)

Isophorone diisocyanate oligomer

EC No. 500-125-5 / CAS No. 53880-05-0

WEL, TWA: 0.02 mg/m³

WEL, STEL: 0.07 mg/m³

BMGV, TWA: 1 µmol/mol creatinine

Remark: isocyanate-derived diamine; urine; end of exposure or end of shift

Xylene

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

WEL, TWA: 220 mg/m³; 50 ppm

WEL, STEL: 441 mg/m³; 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/m³; 100 ppm

WEL, STEL: 552 mg/m³; 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/m³

DNEL acute inhalative (systemic), Workers: 442 mg/m³

DNEL long-term inhalative (local), Workers:

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DNEL long-term inhalative (systemic), Workers: 221 mg/m³
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/m³
DNEL acute inhalative (systemic), Consumer: 260 mg/m³
DNEL long-term inhalative (local), Consumer: 65,3 mg/m³
DNEL long-term inhalative (systemic), Consumer: 65,3 mg/m³

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/m³
DNEL long-term oral (repeated), Consumer: 1,6 mg/kg bw/day
DNEL long-term inhalative (systemic), Consumer: 15 mg/m³

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/m³
DNEL long-term inhalative (systemic), Workers: 0,035 mg/m³

n-butyl acetate

Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4
DNEL short-term oral (acute), Workers:
DNEL long-term inhalative (systemic), Workers: 480 mg/m³
DNEL long-term inhalative (systemic), Consumer: 102,34 mg/m³

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/m³

HDI-homopolymers

EC No. 500-060-2 / CAS No. 28182-81-2
DNEL acute inhalative (local), Workers: 1 mg/m³
DNEL long-term inhalative (local), Workers: 0,5 mg/m³

Isophorone diisocyanate oligomer

EC No. 500-125-5 / CAS No. 53880-05-0
DNEL long-term inhalative (local), Workers: 0,29 mg/m³

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

n-butyl acetate

Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4
PNEC aquatic, freshwater: 0,18 mg/L
PNEC aquatic, marine water: 0,018 mg/L
PNEC aquatic, intermittent release: 0,36 mg/L
PNEC sediment, freshwater: 0,981 mg/kg Sediment dry weight
PNEC sediment, marine water: 0,0981 mg/kg Sediment dry weight
PNEC, soil: 0,0903 mg/kg Sediment dry weight

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PNEC sewage treatment plant (STP): 35,6 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/cm³
PNEC aquatic, marine water: 0,0635 mg/cm³
PNEC aquatic, intermittent release: 6,35 mg/cm³
PNEC sediment, freshwater: 3,29 mg/cm³
PNEC sediment, marine water: 0,329 mg/cm³
PNEC, soil: 0,29 mg/m³
PNEC sewage treatment plant (STP): 100 mg/cm³

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

Isophorone diisocyanate oligomer
EC No. 500-125-5 / CAS No. 53880-05-0
PNEC aquatic, freshwater: 0,0015 mg/L
PNEC aquatic, marine water: 0,0002 mg/L
PNEC sewage treatment plant (STP): 100 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

Physical state:	Liquid
Colour:	refer to label
Odour:	characteristic
Odour threshold:	not applicable
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	126 °C Source: n-butyl acetate
Flammability:	Flammable liquid and vapour.

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Lower and upper explosion limit:

Lower explosion limit: **1.48 Vol-%**
Upper explosion limit: **8 Vol-%**
Source: Xylene

Flash point: **25 °C**
Method: DIN 53213

Auto-ignition temperature: **333 °C**
Source: 2-methoxy-1-methylethyl acetate

Decomposition temperature: **not applicable**

pH at 20 °C: **not applicable**

Cinematic viscosity (40°C): **< 80 mm²/s**

Viscosity at 20 °C: **20 s 4 mm**
Method: DIN 53211

Solubility(ies):
Water solubility at 20 °C: **insoluble**
Partition coefficient: n-octanol/water: **see section 12**
Vapour pressure at 20 °C: **13 mbar**
Source: n-butyl acetate

Density and/or relative density:
Density at 20 °C: **1.01 g/cm³**
Relative vapour density: **not applicable**
particle characteristics: **not applicable**

9.2. Other information

Solid content: **52 weight-%**
solvent content:
Organic solvents: **48 weight-%**
Water: **0 weight-%**

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

Xylene

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

Method: EU Test B.1

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

ethylbenzene

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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

n-butyl acetate

oral, LD50, Rat: 10760 mg/kg
Method: OECD 423
dermal, LD50, Rabbit: 14112 mg/kg
Method: OECD 402
inhalative (dust and mist), LC50, Rat: 23,4 mg/L (4 h)
Method: OECD 403

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/m³ (4 h)
Method: OECD 403

Isophorone diisocyanate oligomer

oral, LD50, Rat: > 14000 mg/kg
dermal, LD50, Rat: > 7000 mg/kg
Method: OECD 402
inhalative (vapours), LC50, Rat: > 5 mg/L (4 h)
Method: OECD 403

Skin corrosion/irritation; Serious eye damage/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.

n-butyl acetate

Skin, Rabbit (4 h)
Method: OECD 404
No skin irritation
eyes
Method: OECD 405
No eye irritation

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.

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HDI-homopolymers
Skin, Rabbit (4 h)
Method: OECD 404
mild irritant.
eyes, Rabbit
Method: OECD 405
mild irritant.

Isophorone diisocyanate oligomer
Skin, Rabbit (4 h)
Method: OECD 404
non-irritant.
eyes, Rabbit
Method: OECD 405
No eye irritation

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

n-butyl acetate
Skin, Guinea pig: ; Evaluation not sensitising.
Method: OECD 406
Mouse mouse ear swelling test (MEST)

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

Isophorone diisocyanate oligomer
Skin, Mouse: ; Evaluation positive
Method: Oecd 429
Respiratory system:
No data available

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
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

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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.

n-butyl acetate
Germ cell mutagenicity; Evaluation Ames test negative.

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

Isophorone diisocyanate oligomer
Germ cell mutagenicity
No data available
Carcinogenicity
No data available
Reproductive toxicity
The available data do not provide any indications of reproductive toxicity.
Genotoxicity in vitro
Method: OECD 471 (Ames test)
Metabolic activation: with/without ; No evidence of a mutagenic effect.

STOT-single exposure; STOT-repeated exposure

May cause respiratory irritation.

May cause drowsiness or dizziness.

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

n-butyl acetate

Specific target organ toxicity (single exposure)
central nervous system; May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)

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human; Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).; Steam in high concentration leads to unconsciousness.

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.

Isophorone diisocyanate oligomer

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

Specific target organ toxicity (repeated exposure) Evaluation Based on available data, the classification criteria are not met.

Aspiration hazard

n-butyl acetate

Aspiration hazard; Evaluation No classification for aspiration toxicity

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.

Isophorone diisocyanate oligomer

Aspiration hazard; Evaluation Based on available data, the classification criteria are not met.

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

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Bacteria toxicity, NOEC, Activated sludge: 16 mg/L (28 h)
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)
respiratory inhibition, EC50, Activated sludge: 842 mg/L (3 h)
Method: OECD 209

n-butyl acetate

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 18 mg/L (96 h)
Method: OECD 203
Daphnia toxicity, EC50, Daphnia magna (Big water flea): 44 mg/L (48 h)
Algae toxicity, ErC50
Algae toxicity, EC50, Desmodesmus subspicatus: 647,7 mg/L (72 h)
(Growth inhibition)
Algae toxicity, NOEC, Desmodesmus subspicatus: 200 mg/L
Bacteria toxicity, IC50, Tetrahymena: 356 mg/L (40 h)

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

Isophorone diisocyanate oligomer

Fish toxicity, LC50, Cyprinus carpio (Common Carp): > 1,51 mg/L (96 h)
Directive 67/548/EEC, Annex V, C.1.
Daphnia toxicity, EC50, Daphnia magna (Big water flea): 3,36 mg/L (48 h)
Method: OECD 202
Algae toxicity, ErC50, Scenedesmus subspicatus: > 3,1 mg/L (72 h)
Method: OECD 201
growth inhibition
Bacteria toxicity, EC50, Activated sludge: > 10000 mg/L (3 h)
Method: OECD 209
respiratory inhibition

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

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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%^a, 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

n-butyl acetate

Persistence and degradability: Evaluation No data available
Biodegradation: 83 percent (28 d); Evaluation Readily biodegradable (according to OECD criteria).
Method: OECD 301D
aerobic.

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

Isophorone diisocyanate oligomer

Biodegradation: 28 percent (28 d); Evaluation Not readily biodegradable (according to OECD criteria)
Method: OECD 301F
aerobic; Activated sludge

12.3. Bioaccumulative potential

Xylene

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

ethylbenzene

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

n-butyl acetate

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

2-methoxy-1-methylethyl acetate

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

HDI-homopolymers

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

Isophorone diisocyanate oligomer

Distribution coefficient n-octanol/water (log KOW): Evaluation Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Xylene

soil: Evaluation Absorbs slowly into the soil

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Water: Evaluation Floats on the water

n-butyl acetate

:

No data available

HDI-homopolymers

soil:

No data available

Isophorone diisocyanate oligomer

Water: 3,62 - 7,66 h; Evaluation The substance hydrolyses rapidly in water.

Method: OECD 111

Test type: Hydrolysis ; Half-life time:; at 22,6 °C

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

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Sea transport (IMDG)

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): 487

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
204-658-1 123-86-4	n-butyl acetate	01-2119485493-29
203-603-9 108-65-6	2-methoxy-1-methylethyl acetate	01-2119475791-29
500-125-5 53880-05-0	Isophorone diisocyanate oligomer	01-2119488734-24
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.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.
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]

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Flam. Liq. 3	Flammable liquids	On basis of test data.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.

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.