

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Name : Hardener for direct polyurethane topcoat 2K
Trade name : PUR HARD DTM 220

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : The product is intended for professional use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

NOVOL Sp. z o.o.
Żabikowska 7/9
62-052 KOMORNIKI
Poland
T 0048618109800 - F 0048618109809
www.novol.com
E-mail address of competent person responsible for the SDS : dokumentacja@novol.com

1.4. Emergency telephone number

Emergency number : 112

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

| | |
|--|------|
| Flammable liquids, Category 3 | H226 |
| Acute toxicity (inhalation:dust,mist) Category 4 | H332 |
| Skin sensitisation, Category 1 | H317 |
| Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation | H335 |
| Aspiration hazard, Category 1 | H304 |
| Hazardous to the aquatic environment – Chronic Hazard, Category 3 | H412 |

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



Signal word (CLP) : Danger
Contains : Hydrocarbons, C9, aromatics
Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H304 - May be fatal if swallowed and enters airways.
H317 - May cause an allergic skin reaction.

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| | |
|--------------------------------|--|
| Precautionary statements (CLP) | : H332 - Harmful if inhaled. H335 - May cause respiratory irritation. H412 - Harmful to aquatic life with long lasting effects. : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 - Do not breathe vapours, spray. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves, protective clothing, eye protection, face protection. P331 - Do NOT induce vomiting. P301+P310 - IF SWALLOWED: Immediately call a doctor. |
| EUH-statements | : EUH204 - Contains isocyanates. May produce an allergic reaction. EUH066 - Repeated exposure may cause skin dryness or cracking. |
| Extra phrases | : As from 24 August 2023 adequate training is required before industrial or professional use. |

2.3. Other hazards

| | |
|---|---|
| Other hazards which do not result in classification | : Can react violently with alkalis, as well as a lot of organic products such as alcohols and amines. Reacts with water, generates gases or heat and overpressure : rupture containers. Polymerizes on exposure to temperature rise: pressure build-up may cause closed container to burst. |
|---|---|

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|--------|---|
| Hexamethylen-1,6-Diisocyanat Homopolimer | CAS-No.: 28182-81-2 EC-No.: 931-274-8 REACH-no: 01-2119485796-17 | < 65 | Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 STOT SE 3, H335 |
| 2-methoxy-1-methylethyl acetate substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit | CAS-No.: 108-65-6 EC-No.: 203-603-9 EC Index-No.: 607-195-00-7 REACH-no: 01-2119475791-29 | 0 – 23 | Flam. Liq. 3, H226 |
| Hydrocarbons, C9, aromatics | EC-No.: 918-668-5 REACH-no: 01-2119455851-35 | < 13 | Flam. Liq. 3, H226 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 |
| xylene substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit (Note C) | CAS-No.: 1330-20-7 EC-No.: 215-535-7 EC Index-No.: 601-022-00-9 REACH-no: 01-2119488216-32 | < 9 | Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 |

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| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|--|--------|--|
| ethylbenzene substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit | CAS-No.: 100-41-4 EC-No.: 202-849-4 EC Index-No.: 601-023-00-4 REACH-no: 01-2119489370-35 | < 2 | Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304 |
| hexamethylene-di-isocyanate (Note 2) | CAS-No.: 822-06-0 EC-No.: 212-485-8 EC Index-No.: 615-011-00-1 REACH-no: 01-2119457571-37 | < 0.38 | Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 |

| Specific concentration limits: | | |
|--------------------------------|--|---|
| Name | Product identifier | Specific concentration limits |
| hexamethylene-di-isocyanate | CAS-No.: 822-06-0 EC-No.: 212-485-8 EC Index-No.: 615-011-00-1 REACH-no: 01-2119457571-37 | (0.5 ≤C ≤ 100) Resp. Sens. 1, H334 (0.5 ≤C ≤ 100) Skin Sens. 1, H317 |

Note 2 : The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture.

Note C : Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : General information. Refer to section 11. |
| First-aid measures after inhalation | : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| First-aid measures after skin contact | : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. If skin irritation continues, consult a doctor. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| First-aid measures after ingestion | : If swallowed: rinse mouth. Do NOT induce vomiting. Call a physician immediately. |

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

| | |
|-------------------------------------|---|
| Symptoms/effects after inhalation | : Vapours may cause drowsiness and dizziness. |
| Symptoms/effects after skin contact | : Prolonged or repeated contact may cause skin to become dry. |
| Symptoms/effects after eye contact | : May cause eye irritation. |

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Dry chemical, CO₂, alcohol-resistant foam or waterspray.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Hazardous decomposition products in case of fire : Carbon monoxide. Nitrogen oxides. Other toxic gases.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Remove ignition sources. Ensure that there is a suitable ventilation system. Avoid any direct or indirect contact with ingredients released. Avoid contact with skin and eyes. Use personal protective equipment as required. See Section 8.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. See Section 8.

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter into surface water or drains. Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

6.3. Methods and material for containment and cleaning up

- For containment : Cover spill with non combustible material, e.g.: sand, earth, vermiculite. Mechanically recover the product.

6.4. Reference to other sections

Disposal considerations. See Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Wear personal protective equipment.
Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment.
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from moisture. Protect against frost.
Storage temperature : 5 – 35 °C

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

| xylene (1330-20-7) | |
|--|---|
| United Kingdom - Occupational Exposure Limits | |
| Local name | Xylene |
| WEL TWA (OEL TWA) [1] | 220 mg/m ³ o-,m-,p- or mixed isomers |
| WEL TWA (OEL TWA) [2] | 50 ppm o-,m-,p- or mixed isomers |
| WEL STEL (OEL STEL) | 441 mg/m ³ o-,m-,p- or mixed isomers |
| WEL STEL (OEL STEL) [ppm] | 100 ppm o-,m-,p- or mixed isomers |
| Remark | Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity) |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| United Kingdom - Biological limit values | |
| Local name | Xylene, o-, m-, p- or mixed isomers |
| BMGV | 650 mmol/mol Creatinine Parameter: methyl hippuric acid - Medium: urine - Sampling time: Post shift |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| 2-methoxy-1-methylethyl acetate (108-65-6) | |
| United Kingdom - Occupational Exposure Limits | |
| Local name | 1-Methoxypropyl acetate |
| WEL TWA (OEL TWA) [1] | 274 mg/m ³ |
| WEL TWA (OEL TWA) [2] | 50 ppm |
| WEL STEL (OEL STEL) | 548 mg/m ³ |
| WEL STEL (OEL STEL) [ppm] | 100 ppm |
| Remark | Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity) |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |

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| ethylbenzene (100-41-4) | |
|--|---|
| United Kingdom - Occupational Exposure Limits | |
| Local name | Ethylbenzene |
| WEL TWA (OEL TWA) [1] | 441 mg/m ³ |
| WEL TWA (OEL TWA) [2] | 100 ppm |
| WEL STEL (OEL STEL) | 552 mg/m ³ |
| WEL STEL (OEL STEL) [ppm] | 125 ppm |
| Remark | Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity) |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |

8.1.2. Recommended monitoring procedures

| Monitoring methods | |
|---------------------------|---|
| Monitoring methods | EN 482. Workplace exposure - General requirements for the performance of procedures for the measurement of chemical agents. |

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

| hexamethylene-di-isocyanate (822-06-0) | |
|--|-------------------------|
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 0.07 mg/m ³ |
| Long-term - local effects, inhalation | 0.035 mg/m ³ |
| PNEC (STP) | |
| PNEC sewage treatment plant | 8.42 mg/l |
| Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2) | |
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 1 mg/m ³ |
| Long-term - local effects, inhalation | 0.5 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.127 mg/l |
| PNEC aqua (marine water) | 0.0127 mg/l |
| PNEC aqua (intermittent, freshwater) | 1.27 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 266701 mg/kg dwt |
| PNEC sediment (marine water) | 26670 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 53183 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 88 mg/l |

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| xylene (1330-20-7) | |
|---|--------------------------|
| DNEL/DMEL (Workers) | |
| Acute - systemic effects, inhalation | 289 mg/m ³ |
| Acute - local effects, inhalation | 289 mg/m ³ |
| Long-term - systemic effects, dermal | 180 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 77 mg/m ³ |
| DNEL/DMEL (General population) | |
| Acute - systemic effects, inhalation | 174 mg/m ³ |
| Acute - local effects, inhalation | 174 mg/m ³ |
| Long-term - systemic effects, oral | 1.6 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 14.8 mg/m ³ |
| Long-term - systemic effects, dermal | 108 mg/kg bodyweight/day |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.327 mg/l |
| PNEC aqua (marine water) | 0.327 mg/l |
| PNEC aqua (intermittent, freshwater) | 0.327 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 12.46 mg/kg dwt |
| PNEC sediment (marine water) | 12.46 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 2.31 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 6.58 mg/l |
| 2-methoxy-1-methylethyl acetate (108-65-6) | |
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 550 mg/m ³ |
| Long-term - systemic effects, dermal | 796 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 275 mg/m ³ |
| DNEL/DMEL (General population) | |
| Long-term - systemic effects, oral | 36 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 33 mg/m ³ |
| Long-term - systemic effects, dermal | 320 mg/kg bodyweight/day |
| Long-term - local effects, inhalation | 33 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.635 mg/l |
| PNEC aqua (marine water) | 0.0635 mg/l |
| PNEC aqua (intermittent, freshwater) | 6.35 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 3.29 mg/kg dwt |
| PNEC sediment (marine water) | 0.329 mg/kg dwt |

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| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|---|--------------------------|
| PNEC (Soil) | |
| PNEC soil | 0.29 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 100 mg/l |
| ethylbenzene (100-41-4) | |
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 293 mg/m ³ |
| Long-term - systemic effects, dermal | 180 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 77 mg/m ³ |
| DNEL/DMEL (General population) | |
| Long-term - systemic effects, oral | 1.6 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 15 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.1 mg/l |
| PNEC aqua (marine water) | 0.01 mg/l |
| PNEC aqua (intermittent, freshwater) | 0.1 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 13.7 mg/kg dwt |
| PNEC sediment (marine water) | 1.37 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 2.68 mg/kg dwt |
| PNEC (Oral) | |
| PNEC oral (secondary poisoning) | 0.02 g/kg food |
| PNEC (STP) | |
| PNEC sewage treatment plant | 9.6 mg/l |
| Hydrocarbons, C9, aromatics | |
| DNEL/DMEL (Workers) | |
| Long-term - systemic effects, dermal | 25 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 150 mg/m ³ |
| DNEL/DMEL (General population) | |
| Long-term - systemic effects, oral | 11 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 32 mg/m ³ |
| Long-term - systemic effects, dermal | 11 mg/kg bodyweight/day |

8.1.5. Control banding

No additional information available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|------------------------------------|
| Physical state | : Liquid |
| Colour | : Colourless. |
| Odour | : characteristic. |
| Odour threshold | : 0.9 – 9 mg/m ³ Xylene |
| Melting point | : Not applicable |
| Freezing point | : Not available |
| Boiling point | : 140 °C |
| Flammability | : Not applicable |
| Explosive properties | : No data available. |
| Explosive limits | : Not available |
| Lower explosion limit | : 1.5 vol % |
| Upper explosion limit | : 10 vol % |
| Flash point | : 38 °C |
| Auto-ignition temperature | : ≈ 270 °C |
| Decomposition temperature | : Not available |
| pH | : Not available |
| Viscosity, kinematic | : 17 mm ² /s |
| Solubility | : Slightly soluble. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : 3.1 hPa |
| Vapour pressure at 50°C | : Not available |
| Density | : ≈ 1 g/cm ³ |

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Relative density : Not available
Relative vapour density at 20°C : Not available
Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Can react violently with alkalis, as well as a lot of organic products such as alcohols and amines. Reacts with water, generates gases or heat and overpressure : rupture containers. Polymerizes on exposure to temperature rise: pressure build-up may cause closed container to burst.

10.4. Conditions to avoid

Keep away from sources of ignition. Prevent build-up of electrostatic charges (e.g. by grounding). Protect from sunlight. Avoid high temperatures. Protect from moisture. Keep out of frost.

10.5. Incompatible materials

No contact with: strong acids, strong bases and strong oxidants. Do not allow contact with water.

10.6. Hazardous decomposition products

Carbon monoxide. Nitrogen oxides. Other toxic gases.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified. (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Harmful if inhaled.

| PUR HARD DTM 220 | |
|--|--|
| ATE CLP (dust,mist) | 1.945 mg/l/4h |
| hexamethylene-di-isocyanate (822-06-0) | |
| LD50 oral rat | 710 mg/kg Source: NCIS; Toxic Substances Information Report |
| LD50 dermal rat | > 7000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LD50 dermal rabbit | 599 mg/kg Source: NCIS; Toxic Substances Information Report |
| LC50 Inhalation - Rat | 0.124 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Remarks on results: other., 95% CL: 111 - 140 |
| LC50 Inhalation - Rat (Vapours) | 0.24 mg/l Source: NCIS; Toxic Substances Information Report |

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| Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2) | |
|--|---|
| LD50 oral rat | > 2500 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method) |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LD50 dermal rabbit | > 2000 mg/kg bodyweight Animal: rabbit, Guideline: other: |
| xylene (1330-20-7) | |
| LD50 oral rat | 3523 mg/kg rat |
| LD50 dermal rabbit | 12126 mg/kg bodyweight Animal: rabbit, Animal sex: male |
| LC50 Inhalation - Rat | 27124 mg/l |
| 2-methoxy-1-methylethyl acetate (108-65-6) | |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| ethylbenzene (100-41-4) | |
| LD50 oral rat | ≈ 3500 mg/kg bodyweight Animal: rat |
| LD50 dermal rabbit | > 20000 mg/kg Source: ECHA |
| LC50 Inhalation - Rat [ppm] | 4000 ppm Source: ECHA, Harmonized classification of EU CLP |
| Hydrocarbons, C9, aromatics | |
| LD50 dermal rabbit | > 3160 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LC50 Inhalation - Rat | > 6193 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Remarks on results: other: |
| Skin corrosion/irritation | : Not classified (Based on available data, the classification criteria are not met) |
| Serious eye damage/irritation | : Not classified (Based on available data, the classification criteria are not met) |
| Respiratory or skin sensitisation | : May cause an allergic skin reaction. |
| Germ cell mutagenicity | : Not classified (Based on available data, the classification criteria are not met) |
| Carcinogenicity | : Not classified (Based on available data, the classification criteria are not met) |
| ethylbenzene (100-41-4) | |
| IARC group | 2B - Possibly carcinogenic to humans |
| Reproductive toxicity | : Not classified (Based on available data, the classification criteria are not met) |
| STOT-single exposure | : May cause respiratory irritation. |
| hexamethylene-di-isocyanate (822-06-0) | |
| STOT-single exposure | May cause respiratory irritation. |
| Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2) | |
| STOT-single exposure | May cause respiratory irritation. |
| Hydrocarbons, C9, aromatics | |
| STOT-single exposure | May cause drowsiness or dizziness. May cause respiratory irritation. |
| STOT-repeated exposure | : Not classified (Based on available data, the classification criteria are not met) |
| xylene (1330-20-7) | |
| LOAEL (oral, rat, 90 days) | 150 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EPA OPP 82-1 (90-Day Oral Toxicity) |

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| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|---|--|
| NOAEL (oral, rat, 90 days) | ≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| NOAEL (dermal, rat/rabbit, 90 days) | > 1000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study) |

| ethylbenzene (100-41-4) | |
|--------------------------------|--|
| NOAEL (oral, rat, 90 days) | 75 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents) |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

| Hydrocarbons, C9, aromatics | |
|------------------------------------|---|
| NOAEL (oral, rat, 90 days) | 600 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) |

Aspiration hazard : May be fatal if swallowed and enters airways.

| PUR HARD DTM 220 | |
|-------------------------|-----------------------|
| Viscosity, kinematic | 17 mm ² /s |

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

Not rapidly degradable

| hexamethylene-di-isocyanate (822-06-0) | |
|---|--------------------------|
| LC50 - Fish [1] | ≥ 82.8 mg/l Source: ECHA |
| EC50 72h - Algae [1] | > 77.4 mg/l Source: ECHA |

| Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2) | |
|--|--|
| EC50 72h - Algae [1] | > 1000 mg/l Test organisms (species): other: |

| xylene (1330-20-7) | |
|---------------------------|--|
| LC50 - Fish [1] | 2.6 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) |
| EC50 - Crustacea [1] | > 3.4 mg/l Test organisms (species): Ceriodaphnia dubia |
| NOEC chronic fish | > 1.3 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '56 d' |

| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|---|---|
| LC50 - Fish [1] | > 100 mg/l Test organisms (species): Oryzias latipes |
| EC50 - Crustacea [1] | > 500 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | > 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| NOEC (chronic) | ≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |

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| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|---|--|
| NOEC chronic fish | 47.5 mg/l Test organisms (species): <i>Oryzias latipes</i> Duration: '14 d' |
| ethylbenzene (100-41-4) | |
| LC50 - Fish [1] | 5.1 mg/l Test organisms (species): <i>Menidia menidia</i> |
| EC50 72h - Algae [1] | 5.4 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |
| EC50 72h - Algae [2] | 4.9 mg/l Test organisms (species): <i>Skeletonema costatum</i> |
| EC50 96h - Algae [1] | 3.6 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |
| EC50 96h - Algae [2] | 7.7 mg/l Test organisms (species): <i>Skeletonema costatum</i> |
| LOEC (chronic) | 1.7 mg/l Test organisms (species): <i>Ceriodaphnia dubia</i> Duration: '7 d' |
| NOEC (chronic) | 0.96 mg/l Test organisms (species): <i>Ceriodaphnia dubia</i> Duration: '7 d' |
| Hydrocarbons, C9, aromatics | |
| EC50 72h - Algae [1] | 0.42 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |
| EC50 72h - Algae [2] | 0.29 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| hexamethylene-di-isocyanate (822-06-0) | |
|---|-------------------|
| Partition coefficient n-octanol/water (Log Pow) | 1.08 Source: ICSC |
| ethylbenzene (100-41-4) | |
| Partition coefficient n-octanol/water (Log Pow) | 3.15 Source: HSDB |

12.4. Mobility in soil

| hexamethylene-di-isocyanate (822-06-0) | |
|---|----------------------|
| Mobility in soil | 5 – 286 Source: ECHA |

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|---------------------------------|---|
| Regional legislation (waste) | : Disposal must be done according to official regulations. |
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Sewage disposal recommendations | : Do not discharge into drains. |

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Product/Packaging disposal recommendations : This material and its container must be disposed of as hazardous waste. Do not dispose of with domestic waste. After cleaning, recycle or dispose of at an authorised site.

Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

| ADR | IMDG | IATA |
|--|--|--|
| 14.1. UN number or ID number | | |
| UN 1866 | UN 1866 | UN 1866 |
| 14.2. UN proper shipping name | | |
| RESIN SOLUTION | RESIN SOLUTION | Resin solution |
| Transport document description | | |
| UN 1866 RESIN SOLUTION, 3, III, (D/E) | UN 1866 RESIN SOLUTION, 3, III (38°C c.c.) | UN 1866 Resin solution, 3, III |
| 14.3. Transport hazard class(es) | | |
| 3 | 3 | 3 |
|  |  |  |
| 14.4. Packing group | | |
| III | III | III |
| 14.5. Environmental hazards | | |
| Dangerous for the environment: No | Dangerous for the environment: No Marine pollutant: No | Dangerous for the environment: No |
| No supplementary information available | | |

14.6. Special precautions for user

Overland transport

Classification code (ADR) : F1
Limited quantities (ADR) : 5I
Special packing provisions (ADR) : PP1
Mixed packing provisions (ADR) : MP19
Transport category (ADR) : 3
Special provisions for carriage - Packages (ADR) : V12

Tunnel restriction code (ADR) : D/E
EAC code : •3Y

Transport by sea

Special provisions (IMDG) : 223, 955
Limited quantities (IMDG) : 5 L
Special packing provisions (IMDG) : PP1
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Stowage category (IMDG) : A

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Air transport

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

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| Abbreviations and acronyms: | |
|-----------------------------|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |

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| Abbreviations and acronyms: | |
|------------------------------------|--|
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

Data sources : ECHA (European Chemicals Agency).
Training advice : Handle in accordance with good industrial hygiene and safety procedures.

| Full text of H- and EUH-statements: | |
|--|---|
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhal.), Category 3 |
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4 |
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment – Chronic Hazard, Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment – Chronic Hazard, Category 3 |

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| Full text of H- and EUH-statements: | |
|-------------------------------------|--|
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| EUH204 | Contains isocyanates. May produce an allergic reaction. |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| Resp. Sens. 1 | Respiratory sensitisation, Category 1 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| STOT RE 2 | Specific target organ toxicity – Repeated exposure, Category 2 |
| STOT SE 3 | Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation |

| Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]: | | |
|---|------|-----------------------|
| Flam. Liq. 3 | H226 | On basis of test data |
| Acute Tox. 4 (Inhalation:dust,mist) | H332 | Calculation method |
| Skin Sens. 1 | H317 | Calculation method |
| STOT SE 3 | H335 | Calculation method |
| Asp. Tox. 1 | H304 | Calculation method |
| Aquatic Chronic 3 | H412 | Calculation method |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.