



DRIVING SURFACE PERFECTION

SYSTEM 20 FAST EV HARDENER

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
 SDS Ref. (EU): S2038EV-SDS
 Issue date: 2/27/2015 Revision date: 12/4/2020 Supersedes version of: 8/28/2020 Version: 6.0

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

1.1. Product identifier

Product form : Mixture
 Trade name : SYSTEM 20 FAST EV HARDENER
 UFI : VQV0-T0MQ-S00Q-Q3GJ
 Product code : S2038EV/1, S2038EV/2.5, S2038EV/S
 Product group : 2K Hardener

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
 Use of the substance/mixture : Coatings and paints, thinners, paint removers
 Function or use category : Hardener (Crosslinker)

1.2.2. Uses advised against

Restrictions on use : Consumer uses: Private households (= general public = consumers)

1.3. Details of the supplier of the safety data sheet

Manufacturer

U-POL Limited
 Denington Road
 NN8 2QH Wellingborough - United Kingdom
 T +44 (0) 1933 230310
technicalsupport@u-pol.com - www.u-pol.com

Importer

U-POL Netherlands B.V.
 Hoogoorddreef 15
 1101BA Amsterdam - Netherlands
 T +31 20 240 2216
technicalsupport@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: +44 (0) 870 8200418 (24 hrs)

| Country | Organisation/Company | Address | Emergency number | Comment |
|----------------|--|--|--|---|
| Ireland | National Poisons Information Centre Beaumont Hospital | PO Box 1297 Beaumont Road 9 Dublin | +353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7) | |
| United Kingdom | NHS England, Scotland & Wales | - | Call 111 or a Doctor | In Northern Ireland, contact your local GP or pharmacist during normal hours (www.gpoutofhours.hscni.net) |

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:vapour) Category 4 H332
 Skin corrosion/irritation, Category 2 H315
 Serious eye damage/eye irritation, Category 2 H319
 Skin sensitisation, Category 1 H317
 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335

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Specific target organ toxicity — Repeated exposure, Category 2 H373
Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May cause damage to organs through prolonged or repeated exposure. Harmful if inhaled. May cause respiratory irritation. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Warning

Contains

: Xylene; isophorondiisocyanate homopolymer; hexamethylene-di-isocyanate; hexamethylene diisocyanate oligomers

Hazard statements (CLP)

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

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. — No smoking.
P261 - Avoid breathing spray, vapours, fume.
P264 - Wash hands thoroughly after handling.
P280 - Wear eye protection, protective gloves, protective clothing.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
EUH204 - Contains isocyanates. May produce an allergic reaction.
: As from 24 August 2023 adequate training is required before industrial or professional use.

EUH-statements

Extra phrases

2.3. Other hazards

| Component | |
|--|---|
| Xylene (1330-20-7) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| Ethylbenzene (100-41-4) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| n-butyl acetate (123-86-4) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| 2-methoxy-1-methylethyl acetate (108-65-6) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| hexamethylene-di-isocyanate (822-06-0) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

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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] |
|--|--|---------|--|
| hexamethylene diisocyanate oligomers | (CAS-No.) 28182-81-2 (EC-No.) 500-060-2 (REACH-no) 01-2119485796-17 | < 75 | Acute Tox. 4 (Inhalation:vapour), H332 Skin Sens. 1, H317 STOT SE 3, H335 |
| Xylene 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 | 10 – 20 | Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 |
| isophorondiisocyanate homopolymer | (CAS-No.) 53880-05-0 (EC-No.) 500-125-5 (REACH-no) 01-2119488734-24 | 5 – 10 | Skin Sens. 1, H317 STOT SE 3, H335 |
| Ethylbenzene 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 | 3 – 5 | Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304 |
| n-butyl acetate substance with a Community workplace exposure limit | (CAS-No.) 123-86-4 (EC-No.) 204-658-1 (EC Index-No.) 607-025-00-1 (REACH-no) 01-2119485493-29 | < 2.5 | Flam. Liq. 3, H226 STOT SE 3, H336 |
| solvent naphtha (petroleum), light aromatic (Note H)(Note 5)(Note P) | (CAS-No.) 64742-95-6 (EC-No.) 265-199-0 (EC Index-No.) 649-356-00-4 (REACH-no) 01-2119455851-35 | < 2.5 | Flam. Liq. 3, H226 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 |
| 2-methoxy-1-methylethyl acetate 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 | 1 – 2.5 | Flam. Liq. 3, H226 |
| 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 | < 0.25 | Acute Tox. 4 (Oral), H302 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 |

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| 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 5 : The concentration limits for gaseous mixtures are expressed as volume per volume percentage.

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.

Note H : The classification and labelling shown for this substance applies to the hazardous property(ies) indicated by the hazard statement(s) in combination with the hazard class(es) and category(ies) shown. The requirements of Article 4 for manufacturers, importers or downstream users of this substance apply to all other hazard classes and categories. For hazard classes where the route of exposure or the nature of the effects leads to a differentiation of the classification of the hazard class, the manufacturer, importer or downstream user is required to consider the routes of exposure or the nature of the effects not already considered.

Note P: The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.

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 | : Call a poison center or a doctor if you feel unwell. |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell. |
| First-aid measures after skin contact | : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Call a poison center or a doctor if you feel unwell. |

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

| | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : May cause respiratory irritation. |
| Symptoms/effects after skin contact | : Irritation. May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking. |
| Symptoms/effects after eye contact | : Eye irritation. |

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

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.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Protective clothing. Gloves.
Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe vapours, spray, fume. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released product. Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not breathe vapours, spray, fume. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
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. Store locked up.
Storage temperature : < 25 °C
Storage area : Keep container in a well-ventilated place.
Special rules on packaging : Keep only in original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

2-methoxy-1-methylethyl acetate (108-65-6)

EU - Indicative Occupational Exposure Limit (IOEL)

| | |
|------------|--------------------------------|
| Local name | 2-Methoxy-1-methylethylacetate |
|------------|--------------------------------|

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| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|--|--|
| IOEL TWA | 275 mg/m ³ |
| IOEL TWA [ppm] | 50 ppm |
| IOEL STEL | 550 mg/m ³ |
| IOEL STEL [ppm] | 100 ppm |
| Notes | Skin Skin |
| Regulatory reference | COMMISSION DIRECTIVE 2000/39/EC COMMISSION DIRECTIVE 2000/39/EC |
| Ireland - Occupational Exposure Limits | |
| Local name | 2-Methoxy-1-methylethylacetate |
| OEL TWA [1] | 275 mg/m ³ |
| OEL TWA [2] | 50 ppm |
| OEL STEL | 550 mg/m ³ |
| OEL STEL [ppm] | 100 ppm |
| Notes (IE) | Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values) |
| Regulatory reference | Chemical Agents Code of Practice 2020 |
| 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 (WEL) | 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 |
| hexamethylene-di-isocyanate (822-06-0) | |
| Ireland - Occupational Exposure Limits | |
| Local name | Hexamethylene diisocyanate (as -NCO) |
| OEL TWA [2] | 0.005 ppm |
| Notes (IE) | Sens. (In the workplace respiratory or dermal exposures to sensitising agents may occur. Sensitizers may evoke respiratory or dermal reactions, e.g. asthma, rhinitis and allergic contact dermatitis. The notation does not distinguish between respiratory or dermal sensitisation. Chemical agents that are sensitizers present special problems in the workplace. Should an employee become sensitised, subsequent exposure may cause intense responses, even at low exposure concentrations well below the OELV. Exposure should be eliminated or significantly reduced through control measures such as engineering and process controls and use of personal protective equipment (PPE)) |
| Regulatory reference | Chemical Agents Code of Practice 2020 |
| United Kingdom - Occupational Exposure Limits | |
| WEL TWA (OEL TWA) [1] | 0.02 mg/m ³ |
| WEL STEL (OEL STEL) | 0.07 mg/m ³ |

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| n-butyl acetate (123-86-4) | |
|---|--|
| EU - Indicative Occupational Exposure Limit (IOEL) | |
| Local name | n-Butyl acetate |
| IOEL TWA | 241 mg/m ³ |
| IOEL TWA [ppm] | 50 ppm |
| IOEL STEL | 723 mg/m ³ 723 mg/m ³ |
| IOEL STEL [ppm] | 150 ppm 150 ppm |
| Regulatory reference | COMMISSION DIRECTIVE (EU) 2019/1831 COMMISSION DIRECTIVE (EU) 2019/1831 |
| Ireland - Occupational Exposure Limits | |
| Local name | Butyl acetate |
| OEL TWA [1] | 710 mg/m ³ |
| OEL TWA [2] | 150 ppm |
| OEL STEL | 950 mg/m ³ |
| OEL STEL [ppm] | 200 ppm |
| Regulatory reference | Chemical Agents Code of Practice 2020 |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Butyl acetate |
| WEL TWA (OEL TWA) [1] | 724 mg/m ³ |
| WEL TWA (OEL TWA) [2] | 150 ppm |
| WEL STEL (OEL STEL) | 966 mg/m ³ |
| WEL STEL (OEL STEL) [ppm] | 200 ppm |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| Xylene (1330-20-7) | |
| EU - Indicative Occupational Exposure Limit (IOEL) | |
| Local name | Xylene, mixed isomers, pure |
| IOEL TWA | 221 mg/m ³ |
| IOEL TWA [ppm] | 50 ppm |
| IOEL STEL | 442 mg/m ³ |
| IOEL STEL [ppm] | 100 ppm |
| Notes | Skin Skin |
| Regulatory reference | COMMISSION DIRECTIVE 2000/39/EC COMMISSION DIRECTIVE 2000/39/EC |
| Ireland - Occupational Exposure Limits | |
| Local name | Xylene, mixed isomers |
| OEL TWA [1] | 221 mg/m ³ |
| OEL TWA [2] | 50 ppm |
| OEL STEL | 442 mg/m ³ |

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| Xylene (1330-20-7) | |
|---|--|
| OEL STEL [ppm] | 100 ppm |
| Notes (IE) | Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values) |
| Regulatory reference | Chemical Agents Code of Practice 2020 |
| Ireland - Biological limit values | |
| Local name | Xylene |
| BLV | 1.5 g/g creatinine Parameter: methylhippuric acids - Medium: urine - Sampling time: End of Shift |
| Regulatory reference | Biological Monitoring Guidelines (HSA, 2011) |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Xylene |
| WEL TWA (OEL TWA) [1] | 220 mg/m ³ |
| WEL TWA (OEL TWA) [2] | 50 ppm |
| WEL STEL (OEL STEL) | 441 mg/m ³ |
| WEL STEL (OEL STEL) [ppm] | 100 ppm |
| Remark (WEL) | 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 |
| Ethylbenzene (100-41-4) | |
| EU - Indicative Occupational Exposure Limit (IOEL) | |
| Local name | Ethylbenzene |
| IOEL TWA | 442 mg/m ³ |
| IOEL TWA [ppm] | 100 ppm |
| IOEL STEL | 884 mg/m ³ |
| IOEL STEL [ppm] | 200 ppm |
| Notes | Skin Skin |
| Regulatory reference | COMMISSION DIRECTIVE 2000/39/EC COMMISSION DIRECTIVE 2000/39/EC |
| Ireland - Occupational Exposure Limits | |
| Local name | Ethylbenzene |
| OEL TWA [1] | 442 mg/m ³ |
| OEL TWA [2] | 100 ppm |
| OEL STEL | 884 mg/m ³ |
| OEL STEL [ppm] | 200 ppm |

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| Ethylbenzene (100-41-4) | |
|--|---|
| Notes (IE) | Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values) |
| Regulatory reference | Chemical Agents Code of Practice 2020 |
| Ireland - Biological limit values | |
| Local name | Ethyl benzene |
| BLV | 0.7 g/g creatinine Parameter: mandelic acid and phenylglyoxylic acid - Medium: urine - Sampling time: End of shift at end of workweek - Notations: Ns (Non-specific), Sq (Semi-quantitative) Parameter: ethylbenzene - Medium: end-exhaled air - Sampling time: Not critical - Notations: Sq (Semi-quantitative) |
| Regulatory reference | Biological Monitoring Guidelines (HSA, 2011) |
| 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 (WEL) | 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

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

| 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 |

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| | |
|------------------------------|-----------------|
| PNEC sediment (marine water) | 0.329 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 0.29 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 100 mg/l |

| | |
|---|-------------------------|
| hexamethylene-di-isocyanate (822-06-0) | |
| DNEL/DMEL (Workers) | |
| Acute - systemic effects, inhalation | 0.07 mg/m ³ |
| Acute - local effects, inhalation | 0.07 mg/m ³ |
| Long-term - systemic effects, inhalation | 0.035 mg/m ³ |
| Long-term - local effects, inhalation | 0.035 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.0774 mg/l |
| PNEC aqua (marine water) | 0.00774 mg/l |
| PNEC aqua (intermittent, freshwater) | 0.774 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 0.01334 mg/kg dwt |
| PNEC sediment (marine water) | 0.001344 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 0.0026 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 8.42 mg/l |

| | |
|--|------------------------|
| n-butyl acetate (123-86-4) | |
| DNEL/DMEL (Workers) | |
| Acute - systemic effects, dermal | 11 mg/kg bw/day |
| Acute - systemic effects, inhalation | 600 mg/m ³ |
| Acute - local effects, inhalation | 600 mg/m ³ |
| Long-term - systemic effects, dermal | 11 mg/kg bw/day |
| Long-term - systemic effects, inhalation | 300 mg/m ³ |
| Long-term - local effects, inhalation | 300 mg/m ³ |
| DNEL/DMEL (General population) | |
| Acute - systemic effects, dermal | 6 mg/kg bw/day |
| Acute - systemic effects, inhalation | 300 mg/m ³ |
| Acute - systemic effects, oral | 2 mg/kg bw/day |
| Acute - local effects, inhalation | 300 mg/m ³ |
| Long-term - systemic effects, oral | 2 mg/kg bw/day |
| Long-term - systemic effects, inhalation | 35.7 mg/m ³ |
| Long-term - systemic effects, dermal | 6 mg/kg bw/day |
| Long-term - local effects, inhalation | 35.7 mg/m ³ |

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| PNEC (Water) | |
|--------------------------------------|------------------|
| PNEC aqua (freshwater) | 0.18 mg/l |
| PNEC aqua (marine water) | 0.018 mg/l |
| PNEC aqua (intermittent, freshwater) | 0.36 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 0.981 mg/kg dwt |
| PNEC sediment (marine water) | 0.0981 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 0.0903 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 35.6 mg/l |

| hexamethylene diisocyanate oligomers (28182-81-2) | |
|--|---------------------|
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 0.5 |
| Long-term - local effects, inhalation | 1 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.127 mg/l |
| PNEC aqua (marine water) | 0.0127 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 |

| 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 |
| Long-term - local 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 |
| Long-term - local effects, inhalation | 65.3 mg/m ³ |

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| 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 |

| 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 |

8.1.5. Control banding

No additional information available

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):

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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

Other skin protection**Materials for protective clothing:**

Impermeable clothing

8.2.2.3. Respiratory protection

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

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. |
| Appearance | : Liquid. |
| Odour | : aromatic. |
| Odour threshold | : Not available |
| Melting point | : Not available |
| Freezing point | : Not available |
| Boiling point | : Not available |
| Flammability | : Not applicable |
| Explosive limits | : Not available |
| Lower explosive limit (LEL) | : Not available |
| Upper explosive limit (UEL) | : Not available |
| Flash point | : 41 °C |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| pH | : Not available |
| Viscosity, kinematic | : > 20.5 mm ² /s |
| Solubility | : insoluble in water. soluble in most organic solvents. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |

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| | |
|----------------------------------|--|
| Vapour pressure | : Not available |
| Vapour pressure at 50 °C | : Not available |
| Density | : 1.08 (1.07 – 1.09) g/cm ³ |
| Relative density | : Not available |
| Relative vapour density at 20 °C | : Not available |
| Particle size | : Not applicable |
| Particle size distribution | : Not applicable |
| Particle shape | : Not applicable |
| Particle aspect ratio | : Not applicable |
| Particle aggregation state | : Not applicable |
| Particle agglomeration state | : Not applicable |
| Particle specific surface area | : Not applicable |
| Particle dustiness | : Not applicable |

9.2. Other information

VOC content : 235 g/l

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 235 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

| | |
|-----------------------------|-----------------------|
| Acute toxicity (oral) | : Not classified |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Harmful if inhaled. |

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| | |
|-------------------|----------------|
| ATE CLP (vapours) | 12.306 mg/l/4h |
|-------------------|----------------|

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| dibutyltin dilaurate (77-58-7) | |
|---------------------------------------|--|
| LD50 oral rat | 2071 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1207 - 5106 |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)) |

| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|---|--|
| LD50 oral rat | 6190 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral) |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LD50 dermal rabbit | > 5000 mg/kg bodyweight (Equivalent or similar to OECD 402, Rabbit, Male / female, Experimental value, Dermal) |
| LC50 Inhalation - Rat [ppm] | 1728 ppm/4h (4 h, OECD Guideline 403 (Acute Inhalation Toxicity), rat, male/female, Inhalation, vapours) |

| isophorondiisocyanate homopolymer (53880-05-0) | |
|---|---|
| LD50 oral rat | > 14000 mg/kg |
| LC50 Inhalation - Rat (Dust/Mist) | > 5 mg/l/4h (OECD Test Guidelines 402, 4h, rat, male/female, inhalation, dust/mist) |

| hexamethylene-di-isocyanate (822-06-0) | |
|---|--|
| LD50 oral rat | 746 mg/kg (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | > 7000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LC50 Inhalation - Rat | 0.124 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), 95% CL: 111 - 140 |

| n-butyl acetate (123-86-4) | |
|-----------------------------------|--|
| LD50 oral rat | 10760 – 12789 mg/kg bodyweight (Equivalent or similar to OECD 423, Rat, Male / female, Experimental value, Oral) |
| LD50 dermal rabbit | 14112 mg/kg bodyweight (Equivalent or similar to OECD 402, Rabbit, Male / female, Experimental value, Dermal) |
| LC50 Inhalation - Rat [ppm] | 390 ppm/4h |
| LC50 Inhalation - Rat (Vapours) | > 21 mg/l/4h (4 h, OECD Test Guideline 403, rat, vapours) |

| solvent naphtha (petroleum), light aromatic (64742-95-6) | |
|---|--|
| LD50 oral rat | > 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity) |
| LD50 dermal rabbit | > 3160 mg/kg (OECD Test Guideline 402) |
| LC50 Inhalation - Rat (Vapours) | > 6.193 mg/l/4h (4 h, OECD Test Guideline 403, vapours) |

| hexamethylene diisocyanate oligomers (28182-81-2) | |
|--|--|
| LD50 oral rat | > 2500 mg/kg (OECD Test Guideline 423, rat, female) |
| LD50 dermal rat | > 2000 mg/kg (OECD Test Guideline 402, rat, male/female) |
| LC50 Inhalation - Rat (Dust/Mist) | 0.39 mg/l/4h (OECD Test Guideline 403, rat, female, inhalation, dust/mist) |

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| 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate (4098-71-9) | |
|--|---|
| LD50 oral rat | 4814 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 4295 - 5396 |
| LD50 dermal rat | > 7000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LC50 Inhalation - Rat | 40 mg/m ³ (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol)) |

| Xylene (1330-20-7) | |
|-----------------------------|---|
| LD50 oral rat | 3523 mg/kg bodyweight (Equivalent or similar to EU Method B.1: Acute Toxicity (Oral), Rat, Male, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | 12126 mg/kg (Non-GLP, read-across from supporting substance, single dermal dose under occlusion followed by observation for 14 days) |
| LD50 dermal rabbit | 12126 mg/kg bodyweight Animal: rabbit, Animal sex: male |
| LC50 Inhalation - Rat [ppm] | 6700 ppm/4h (EU Method B.2 (Acute Toxicity (Inhalation)), 4h, rat, male) |

| Ethylbenzene (100-41-4) | |
|--------------------------------|---|
| LD50 oral rat | 3500 mg/kg (Rat, Male / female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rabbit | 15432 mg/kg bodyweight (24 h, Rabbit, Male, Experimental value, Dermal) |
| LC50 Inhalation - Rat | 17.8 mg/l (4 h, Rat, Male, Experimental value, Inhalation (vapours)) |

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

| Xylene (1330-20-7) | |
|---------------------------|----------------------|
| IARC group | 3 - Not classifiable |

| Ethylbenzene (100-41-4) | |
|--------------------------------|--------------------------------------|
| IARC group | 2B - Possibly carcinogenic to humans |

Reproductive toxicity : Not classified

| dibutyltin dilaurate (77-58-7) | |
|---------------------------------------|--|
| NOAEL (animal/male, F0/P) | 1.9 – 2.3 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |
| NOAEL (animal/female, F0/P) | 1.7 – 2.4 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |

STOT-single exposure : May cause respiratory irritation.

| dibutyltin dilaurate (77-58-7) | |
|---------------------------------------|-----------------------------------|
| STOT-single exposure | Causes damage to organs (thymus). |

| isophorondiisocyanate homopolymer (53880-05-0) | |
|---|-----------------------------------|
| STOT-single exposure | May cause respiratory irritation. |

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| hexamethylene-di-isocyanate (822-06-0) | |
|---|-----------------------------------|
| STOT-single exposure | May cause respiratory irritation. |

| n-butyl acetate (123-86-4) | |
|-----------------------------------|------------------------------------|
| STOT-single exposure | May cause drowsiness or dizziness. |

| solvent naphtha (petroleum), light aromatic (64742-95-6) | |
|---|--|
| STOT-single exposure | May cause drowsiness or dizziness. May cause respiratory irritation. |

| hexamethylene diisocyanate oligomers (28182-81-2) | |
|--|-----------------------------------|
| STOT-single exposure | May cause respiratory irritation. |

| 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate (4098-71-9) | |
|--|-----------------------------------|
| STOT-single exposure | May cause respiratory irritation. |

| Xylene (1330-20-7) | |
|---------------------------|-----------------------------------|
| STOT-single exposure | May cause respiratory irritation. |

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

| dibutyltin dilaurate (77-58-7) | |
|---------------------------------------|--|
| STOT-repeated exposure | Causes damage to organs (thymus) through prolonged or repeated exposure. |

| 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) |

| 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) |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

| Ethylbenzene (100-41-4) | |
|--------------------------------|--|
| NOAEL (oral, rat, 90 days) | 75 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| STOT-repeated exposure | May cause damage to organs (hearing sense) through prolonged or repeated exposure. |

Aspiration hazard : Not classified

| SYSTEM 20 FAST EV HARDENER | |
|-----------------------------------|---------------------------|
| Viscosity, kinematic | > 20.5 mm ² /s |

11.2. Information on other hazards

No additional information available

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SECTION 12: Ecological information

12.1. Toxicity

| | |
|---|---|
| Ecology - general | : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| Hazardous to the aquatic environment, short-term (acute) | : Not classified |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified |

| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|--|--|
| LC50 - Fish [1] | > 100 mg/l Test organisms (species): <i>Oryzias latipes</i> |
| EC50 - Crustacea [1] | > 500 mg/l Test organisms (species): <i>Daphnia magna</i> |
| EC50 72h - Algae [1] | > 1000 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |
| EC50 96h - Algae [1] | > 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, <i>Pseudokirchneriella subcapitata</i> , Static system, Fresh water, Experimental value, Nominal concentration) |
| NOEC (chronic) | ≥ 100 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d' |
| NOEC chronic fish | 47.5 mg/l Test organisms (species): <i>Oryzias latipes</i> Duration: '14 d' |

| hexamethylene-di-isocyanate (822-06-0) | |
|--|---|
| EC50 72h - Algae [1] | > 77.4 mg/l Test organisms (species): <i>Desmodesmus subspicatus</i> (previous name: <i>Scenedesmus subspicatus</i>) |

| n-butyl acetate (123-86-4) | |
|----------------------------|--|
| LC50 - Fish [1] | 18 mg/l Test organisms (species): <i>Pimephales promelas</i> |
| LC50 - Fish [2] | 62 mg/l (<i>Leuciscus idus</i> , static system) |
| EC50 - Crustacea [1] | 44 mg/l Test organisms (species): <i>Daphnia</i> sp. |
| EC50 72h - Algae [1] | 674.7 mg/l Test organisms (species): <i>Desmodesmus subspicatus</i> (previous name: <i>Scenedesmus subspicatus</i>) |
| NOEC (chronic) | 23 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d' |
| NOEC chronic crustacea | 23 mg/l |

| Xylene (1330-20-7) | |
|----------------------|--|
| LC50 - Fish [1] | 2.6 mg/l Test organisms (species): <i>Oncorhynchus mykiss</i> (previous name: <i>Salmo gairdneri</i>) |
| EC50 - Crustacea [1] | > 3.4 mg/l Test organisms (species): <i>Ceriodaphnia dubia</i> |
| EC50 72h - Algae [1] | 2.2 mg/l |
| ErC50 algae | 4.36 mg/l (OECD 201: Alga, Growth Inhibition Test, 73 h, <i>Pseudokirchneriella subcapitata</i> , Static system, Fresh water, Experimental value, GLP) |
| NOEC chronic fish | > 1.3 mg/l Test organisms (species): <i>Oncorhynchus mykiss</i> (previous name: <i>Salmo gairdneri</i>) Duration: '56 d' |

| Ethylbenzene (100-41-4) | |
|-------------------------|--|
| LC50 - Fish [1] | 5.1 mg/l Test organisms (species): <i>Menidia menidia</i> |
| EC50 - Crustacea [1] | 1.8 – 2.4 mg/l (US EPA, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value) |

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| | |
|----------------------|--|
| EC50 72h - Algae [1] | 4.9 mg/l Test organisms (species): Skeletonema costatum |
| EC50 72h - Algae [2] | 5.4 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 96h - Algae [1] | 7.7 mg/l Test organisms (species): Skeletonema costatum |
| EC50 96h - Algae [2] | 3.6 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| LOEC (chronic) | 1.7 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d' |
| NOEC (chronic) | 0.96 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d' |

12.2. Persistence and degradability

2-methoxy-1-methylethyl acetate (108-65-6)

| | |
|-------------------------------|--|
| Persistence and degradability | Readily biodegradable in the soil. Readily biodegradable in water. |
|-------------------------------|--|

hexamethylene-di-isocyanate (822-06-0)

| | |
|-------------------------------|-------------------------------------|
| Persistence and degradability | Not readily biodegradable in water. |
|-------------------------------|-------------------------------------|

n-butyl acetate (123-86-4)

| | |
|-------------------------------|------------------------------------|
| Persistence and degradability | Readily biodegradable in water. |
| ThOD | 2.21 g O ₂ /g substance |
| BOD (% of ThOD) | 0.46 |

solvent naphtha (petroleum), light aromatic (64742-95-6)

| | |
|-------------------------------|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |
|-------------------------------|---|

Xylene (1330-20-7)

| | |
|-------------------------------|--|
| Persistence and degradability | Biodegradable in the soil. Readily biodegradable in water. |
|-------------------------------|--|

Ethylbenzene (100-41-4)

| | |
|---------------------------------|--|
| Persistence and degradability | Biodegradable in the soil. Readily biodegradable in water. |
| Biochemical oxygen demand (BOD) | 1.44 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 2.1 g O ₂ /g substance |
| ThOD | 3.17 g O ₂ /g substance |

12.3. Bioaccumulative potential

2-methoxy-1-methylethyl acetate (108-65-6)

| | |
|---|--|
| Partition coefficient n-octanol/water (Log Pow) | 1.2 (Experimental value, Equivalent or similar to OECD 117, 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

hexamethylene-di-isocyanate (822-06-0)

| | |
|---|--|
| BCF - Fish [1] | 59.6 (BCFWIN, Pisces, QSAR) |
| Partition coefficient n-octanol/water (Log Pow) | 3.2 (Calculated) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

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| n-butyl acetate (123-86-4) | |
|---|--|
| BCF - Fish [1] | 15.3 (Calculated value) |
| Partition coefficient n-octanol/water (Log Pow) | 2.3 (Test data, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

| solvent naphtha (petroleum), light aromatic (64742-95-6) | |
|---|------------------|
| Partition coefficient n-octanol/water (Log Pow) | 2.1 – 6 |
| Bioaccumulative potential | Not established. |

| Xylene (1330-20-7) | |
|---|--|
| BCF - Fish [1] | 7.2 – 25.9 (56 day(s), Oncorhynchus mykiss, Flow-through system, Fresh water, Read-across) |
| Partition coefficient n-octanol/water (Log Pow) | 3.2 (Read-across, 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

| Ethylbenzene (100-41-4) | |
|---|--|
| BCF - Fish [1] | 1 (6 week(s), Oncorhynchus kisutch, Flow-through system, Salt water, Experimental value) |
| Partition coefficient n-octanol/water (Log Pow) | 3.6 (Experimental value, EU Method A.8: Partition Coefficient, 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

12.4. Mobility in soil

| 2-methoxy-1-methylethyl acetate (108-65-6) | |
|---|--|
| Surface tension | 29.4 mN/m (20 °C, 100 vol %, EU Method A.5: Surface tension) |
| Partition coefficient n-octanol/water (Log Koc) | 0.264 (log Koc, QSAR) |
| Ecology - soil | Highly mobile in soil. |

| hexamethylene-di-isocyanate (822-06-0) | |
|---|---|
| Partition coefficient n-octanol/water (Log Koc) | 2.78 – 3.68 (log Koc, Calculated value) |
| Ecology - soil | Low potential for mobility in soil. |

| n-butyl acetate (123-86-4) | |
|---|--|
| Surface tension | 0.0163 N/m (20 °C) |
| Partition coefficient n-octanol/water (Log Koc) | 1.268 – 1.844 (log Koc, SRC PCKOCWIN v2.0, QSAR) |
| Ecology - soil | Low potential for adsorption in soil. |

| Xylene (1330-20-7) | |
|---|---|
| Surface tension | 28.01 – 29.76 mN/m (25 °C) |
| Partition coefficient n-octanol/water (Log Koc) | 2.73 (log Koc, Equivalent or similar to OECD 121, Read-across) |
| Ecology - soil | Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation. |

| Ethylbenzene (100-41-4) | |
|--------------------------------|--|
| Surface tension | 71.2 mN/m (23 °C, 0.058 g/l, EU Method A.5: Surface tension) |

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| | |
|---|--|
| Partition coefficient n-octanol/water (Log Koc) | 2.71 (log Koc, PCKOCWIN v1.66, QSAR) |
| Ecology - soil | Low potential for adsorption in soil. Toxic to soil organisms. |

12.5. Results of PBT and vPvB assessment

| Component | |
|--|---|
| Xylene (1330-20-7) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| Ethylbenzene (100-41-4) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| n-butyl acetate (123-86-4) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| 2-methoxy-1-methylethyl acetate (108-65-6) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| hexamethylene-di-isocyanate (822-06-0) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

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. |
| Additional information | : Flammable vapours may accumulate in the container. |

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

| | |
|---------------|-----------|
| UN-No. (ADR) | : UN 1263 |
| UN-No. (IMDG) | : UN 1263 |
| UN-No. (IATA) | : UN 1263 |
| UN-No. (ADN) | : UN 1263 |
| UN-No. (RID) | : UN 1263 |

14.2. UN proper shipping name

| | |
|---------------------------------------|---|
| Proper Shipping Name (ADR) | : PAINT RELATED MATERIAL |
| Proper Shipping Name (IMDG) | : PAINT RELATED MATERIAL |
| Proper Shipping Name (IATA) | : Paint |
| Proper Shipping Name (ADN) | : PAINT RELATED MATERIAL |
| Proper Shipping Name (RID) | : PAINT RELATED MATERIAL |
| Transport document description (ADR) | : UN 1263 PAINT RELATED MATERIAL, 3, III, (D/E) |
| Transport document description (IMDG) | : UN 1263 PAINT RELATED MATERIAL, 3, III |
| Transport document description (IATA) | : UN 1263 Paint, 3, III |
| Transport document description (ADN) | : UN 1263 PAINT RELATED MATERIAL, 3, III |
| Transport document description (RID) | : UN 1263 PAINT RELATED MATERIAL, 3, III |

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3
Danger labels (ADR) : 3



IMDG

Transport hazard class(es) (IMDG) : 3
Danger labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3
Danger labels (IATA) : 3



ADN

Transport hazard class(es) (ADN) : 3
Danger labels (ADN) : 3



RID

Transport hazard class(es) (RID) : 3
Danger labels (RID) : 3



14.4. Packing group

Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

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14.6. Special precautions for user

Overland transport

| | |
|---|---------------------------|
| Classification code (ADR) | : F1 |
| Special provisions (ADR) | : 163, 367, 650 |
| Limited quantities (ADR) | : 5I |
| Excepted quantities (ADR) | : E1 |
| Packing instructions (ADR) | : P001, IBC03, LP01, R001 |
| Special packing provisions (ADR) | : PP1 |
| Mixed packing provisions (ADR) | : MP19 |
| Portable tank and bulk container instructions (ADR) | : T2 |
| Portable tank and bulk container special provisions (ADR) | : TP1, TP29 |
| Tank code (ADR) | : LGBF |
| Vehicle for tank carriage | : FL |
| Transport category (ADR) | : 3 |
| Special provisions for carriage - Packages (ADR) | : V12 |
| Special provisions for carriage - Operation (ADR) | : S2 |
| Hazard identification number (Kemler No.) | : 30 |
| Orange plates | : |

30

1263

| | |
|-------------------------------|--------|
| Tunnel restriction code (ADR) | : D/E |
| EAC code | : •3YE |

Transport by sea

| | |
|------------------------------------|--|
| Special provisions (IMDG) | : 163, 223, 367, 955 |
| Limited quantities (IMDG) | : 5 L |
| Excepted quantities (IMDG) | : E1 |
| Packing instructions (IMDG) | : P001, LP01 |
| Special packing provisions (IMDG) | : PP1 |
| IBC packing instructions (IMDG) | : IBC03 |
| Tank instructions (IMDG) | : T2 |
| Tank special provisions (IMDG) | : TP1, TP29 |
| EmS-No. (Fire) | : F-E |
| EmS-No. (Spillage) | : S-E |
| Stowage category (IMDG) | : A |
| Properties and observations (IMDG) | : Miscibility with water depends upon the composition. |

Air transport

| | |
|--|-----------------|
| PCA Excepted quantities (IATA) | : E1 |
| PCA Limited quantities (IATA) | : Y344 |
| PCA limited quantity max net quantity (IATA) | : 10L |
| PCA packing instructions (IATA) | : 355 |
| PCA max net quantity (IATA) | : 60L |
| CAO packing instructions (IATA) | : 366 |
| CAO max net quantity (IATA) | : 220L |
| Special provisions (IATA) | : A3, A72, A192 |
| ERG code (IATA) | : 3L |

Inland waterway transport

| | |
|-----------------------------------|-----------------|
| Classification code (ADN) | : F1 |
| Special provisions (ADN) | : 163, 367, 650 |
| Limited quantities (ADN) | : 5 L |
| Excepted quantities (ADN) | : E1 |
| Equipment required (ADN) | : PP, EX, A |
| Ventilation (ADN) | : VE01 |
| Number of blue cones/lights (ADN) | : 0 |

Rail transport

| | |
|----------------------------|---------------------------|
| Classification code (RID) | : F1 |
| Special provisions (RID) | : 163, 367, 650 |
| Limited quantities (RID) | : 5L |
| Excepted quantities (RID) | : E1 |
| Packing instructions (RID) | : P001, IBC03, LP01, R001 |

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| | |
|---|-------------|
| Special packing provisions (RID) | : PP1 |
| Mixed packing provisions (RID) | : MP19 |
| Portable tank and bulk container instructions (RID) | : T2 |
| Portable tank and bulk container special provisions (RID) | : TP1, TP29 |
| Tank codes for RID tanks (RID) | : LGBF |
| Transport category (RID) | : 3 |
| Special provisions for carriage – Packages (RID) | : W12 |
| Colis express (express parcels) (RID) | : CE4 |
| Hazard identification number (RID) | : 30 |

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

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

| Reference code | Applicable on | Entry title or description |
|----------------|--|--|
| 3(a) | SYSTEM 20 FAST EV HARDENER ; Xylene ; Ethylbenzene ; n-butyl acetate ; solvent naphtha (petroleum), light aromatic ; 2-methoxy-1-methylethyl acetate | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F |
| 3(b) | SYSTEM 20 FAST EV HARDENER ; Xylene ; Ethylbenzene ; hexamethylene-di-isocyanate ; n-butyl acetate ; solvent naphtha (petroleum), light aromatic ; hexamethylene diisocyanate oligomers ; isophorondiisocyanate homopolymer | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 |
| 3(c) | solvent naphtha (petroleum), light aromatic | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1 |
| 40. | SYSTEM 20 FAST EV HARDENER ; Xylene ; Ethylbenzene ; n-butyl acetate ; solvent naphtha (petroleum), light aromatic ; 2-methoxy-1-methylethyl acetate | Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not. |
| 74. | hexamethylene-di-isocyanate | Diisocyanates, $O = C=N-R-N = C=O$, with R an aliphatic or aromatic hydrocarbon unit of unspecified length |

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

VOC content : 235 g/l

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

| 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 |
| BLV | Biological limit value |
| CAS-No. | Chemical Abstract Service number |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC50 | Median effective concentration |
| EC-No. | European Community number |
| EN | European Standard |
| 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 |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| vPvB | Very Persistent and Very Bioaccumulative |
| WGK | Water Hazard Class |

| 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:vapour) | Acute toxicity (inhalation:vapour) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |

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| | |
|---------------|--|
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| 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 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Narcosis |
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| 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. |
| EUH204 | Contains isocyanates. May produce an allergic reaction. |

For professional use only.

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