

S2038EV FAST HARDENER VOC

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
 SDS Ref. (EU): S2038EV
 Date of issue: 27/02/2015 Revision date: 12/10/2018 Supersedes: 04/12/2017 Version: 3.1

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

1.1. Product identifier

Product form : Mixture
 Trade name : S2038EV FAST HARDENER VOC
 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

Industrial/Professional use spec : Industrial
 For professional use only
 Function or use category : Hardener (Crosslinker)

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

U-POL LIMITED
 Denington Road, Wellingborough
 Northants. NN8 2QH - UK
 T +44 (0) 1933 230310
technical.department@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
 Skin sensitisation, Category 1 H317
 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

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

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS07

Signal word (CLP) :

Warning

Hazardous ingredients :

xylene; isophorondiisocyanate homopolymer; 1,6-diisocyanatohexane; Hexamethylene-1,6-diisocyanate Homopolymer; hexamethylene diisocyanate oligomers

Hazard statements (CLP) :

H226 - Flammable liquid and vapour.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H332 - Harmful if inhaled.
 H335 - May cause respiratory irritation.

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Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing spray, vapours, fume. P280 - Wear face protection, protective clothing, protective gloves. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 - Call a doctor if you feel unwell. P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
EUH-statements	: EUH204 - Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

No additional information available

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-1,6-diisocyanate Homopolymer	(CAS-No.) 28182-81-2 (EC-No.) 500-060-2	< 50	Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 STOT SE 3, H335
hexamethylene diisocyanate oligomers	(CAS-No.) 28182-81-2 (EC-No.) 500-060-2 (REACH-no) 01-2119485796-17	< 50	Acute Tox. 4 (Inhalation:vapour), H332 Skin Sens. 1, H317 STOT SE 3, H335
xylene (Note C)	(CAS-No.) 1330-20-7 (EC-No.) 215-535-7 (EC Index-No.) 601-022-00-9 (REACH-no) 01-2119488216-32	< 20	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315
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	(CAS-No.) 100-41-4 (EC-No.) 202-849-4 (EC Index-No.) 601-023-00-4 (REACH-no) 01-2119489370-35	< 5	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 Asp. Tox. 1, H304 STOT RE 2, H373
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	< 2.5	Flam. Liq. 3, H226
1,6-diisocyanatohexane (Note 2)	(CAS-No.) 822-06-0 (EC-No.) 212-485-8 (EC Index-No.) 615-011-00-1	< 0.25	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 1 (Inhalation:vapour), H330

Specific concentration limits:

Name	Product identifier	Specific concentration limits
1,6-diisocyanatohexane	(CAS-No.) 822-06-0 (EC-No.) 212-485-8 (EC Index-No.) 615-011-00-1	(C >= 0.5) Resp. Sens. 1, H334 (C >= 0.5) Skin Sens. 1, H317

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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 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 classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7). When the substance is not classified as a carcinogen at least the precautionary statements (P102-)P260-P262- P301 + P310-P331 (Table 3.1) or the S-phrases (2-)23-24-62 (Table 3.2) shall apply. This note applies only to certain complex oil-derived substances in Part 3.

Full text of H-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 eyes with water as a precaution.
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.

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.

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. Avoid breathing fume, vapours. 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.

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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. Use only outdoors or in a well-ventilated area. Avoid breathing vapours, spray, fume. 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

ethylbenzene (100-41-4)		
EU	Local name	Ethylbenzene
EU	IOELV TWA (mg/m ³)	442 mg/m ³
EU	IOELV TWA (ppm)	100 ppm
EU	IOELV STEL (mg/m ³)	884 mg/m ³
EU	IOELV STEL (ppm)	200 ppm
EU	Notes	Skin
EU	Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Ireland	Local name	Ethylbenzene
Ireland	OEL (8 hours ref) (mg/m ³)	442 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	100 ppm
Ireland	OEL (15 min ref) (mg/m ³)	884 mg/m ³
Ireland	OEL (15 min ref) (ppm)	200 ppm
Ireland	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)
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
United Kingdom	Local name	Ethylbenzene
United Kingdom	WEL TWA (mg/m ³)	441 mg/m ³
United Kingdom	WEL TWA (ppm)	100 ppm
United Kingdom	WEL STEL (mg/m ³)	552 mg/m ³
United Kingdom	WEL STEL (ppm)	125 ppm
United Kingdom	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)
United Kingdom	Regulatory reference	EH40/2005 (Third edition, 2018). HSE

xylene (1330-20-7)

EU	Local name	Xylene, mixed isomers, pure
EU	IOELV TWA (mg/m ³)	221 mg/m ³

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xylene (1330-20-7)		
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m ³)	442 mg/m ³
EU	IOELV STEL (ppm)	100 ppm
EU	Notes	Skin
EU	Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Ireland	Local name	Xylene, mixed isomers
Ireland	OEL (8 hours ref) (mg/m ³)	221 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m ³)	442 mg/m ³
Ireland	OEL (15 min ref) (ppm)	100 ppm
Ireland	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)
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
United Kingdom	Local name	Xylene
United Kingdom	WEL TWA (mg/m ³)	220 mg/m ³
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m ³)	441 mg/m ³
United Kingdom	WEL STEL (ppm)	100 ppm
United Kingdom	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)
United Kingdom	Regulatory reference	EH40/2005 (Third edition, 2018). HSE

2-methoxy-1-methylethyl acetate (108-65-6)		
EU	Local name	2-Methoxy-1-methylethylacetate
EU	IOELV TWA (mg/m ³)	275 mg/m ³
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m ³)	550 mg/m ³
EU	IOELV STEL (ppm)	100 ppm
EU	Notes	Skin
EU	Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Ireland	Local name	2-Methoxy-1-methylethylacetate
Ireland	OEL (8 hours ref) (mg/m ³)	275 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m ³)	550 mg/m ³
Ireland	OEL (15 min ref) (ppm)	100 ppm
Ireland	Notes (IE)	Sk, IOELV
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2016
United Kingdom	Local name	1-Methoxypropyl acetate
United Kingdom	WEL TWA (mg/m ³)	274 mg/m ³
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m ³)	548 mg/m ³
United Kingdom	WEL STEL (ppm)	100 ppm

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2-methoxy-1-methylethyl acetate (108-65-6)		
United Kingdom	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)
United Kingdom	Regulatory reference	EH40. HSE

n-butyl acetate (123-86-4)		
EU	Local name	n-butyl acetate
EU	Notes	(Ongoing)
EU	Regulatory reference	SCOEL Recommendations
Ireland	Local name	Butyl acetate
Ireland	OEL (8 hours ref) (mg/m ³)	710 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	150 ppm
Ireland	OEL (15 min ref) (mg/m ³)	950 mg/m ³
Ireland	OEL (15 min ref) (ppm)	200 ppm
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
United Kingdom	Local name	Butyl acetate
United Kingdom	WEL TWA (mg/m ³)	724 mg/m ³
United Kingdom	WEL TWA (ppm)	150 ppm
United Kingdom	WEL STEL (mg/m ³)	966 mg/m ³
United Kingdom	WEL STEL (ppm)	200 ppm
United Kingdom	Regulatory reference	EH40/2005 (Third edition, 2018). HSE

1,6-diisocyanatohexane (822-06-0)		
Ireland	Local name	Hexamethylene diisocyanate (as -NCO)
Ireland	OEL (8 hours ref) (ppm)	0.005 ppm
Ireland	Notes (IE)	Sens.
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2016
United Kingdom	WEL TWA (mg/m ³)	0.02 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	0.07 mg/m ³

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Materials for protective clothing:

Impermeable clothing

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Environmental exposure controls:

Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Colourless.
Odour	: aromatic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 41 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.07 - 1.09 g/cm ³
Solubility	: insoluble in water. soluble in most organic solvents.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content	: 235 g/l
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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 toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation:vapour: Harmful if inhaled.

ATE CLP (vapours)	14.591 mg/l/4h
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ethylbenzene (100-41-4)

LD50 oral rat	3500 mg/kg (Rat, Male/female, Experimental value, Oral)
LD50 dermal rabbit	15432 mg/kg bodyweight (24 h, Rabbit, Male, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	17.8 mg/l (4 h, Rat, Male, Experimental value, Inhalation (vapours))

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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))
LC50 inhalation rat (mg/l)	29.08 mg/l/4h
LC50 inhalation rat (ppm)	5000 ppm/4h

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 rabbit	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 402, Rabbit, Male/female, Experimental value, Dermal)

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 (mg/l)	> 21 mg/l/4h
LC50 inhalation rat (ppm)	390 ppm/4h

hexamethylene diisocyanate oligomers (28182-81-2)	
LD50 oral rat	> 2500 mg/kg
LD50 dermal rat	> 2000 mg/kg

1,6-diisocyanatohexane (822-06-0)	
LD50 oral rat	746 mg/kg (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LD50 dermal rabbit	599 mg/kg (Rabbit, Dermal)
LC50 inhalation rat (mg/l)	0.124 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male/female, Experimental value, Inhalation (vapours))

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

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

xylene (1330-20-7)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

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ethylbenzene (100-41-4)

LC50 fish 1	4.2 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, <i>Salmo gairdneri</i> , Semi-static system, Fresh water, Experimental value)
EC50 Daphnia 1	1.8 - 2.4 mg/l (US EPA, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value)
EC50 72h algae (1)	5.4 mg/l (US EPA, <i>Pseudokirchneriella subcapitata</i> , Static system, Fresh water, Experimental value, Cell numbers)

xylene (1330-20-7)

LC50 fish 1	2.6 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, <i>Oncorhynchus mykiss</i> , Static renewal, Fresh water, Read-across, Lethal)
ErC50 (algae)	2.2 mg/l (OECD 201: Acute Toxicity Test, 72 h, <i>Selenastrum capricornutum</i> (green algae), 72 h, Static test, GLP)

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

LC50 fish 1	100 - 180 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, <i>Oncorhynchus mykiss</i> , Static system, Fresh water, Experimental value, Nominal concentration)
EC50 Daphnia 1	> 500 mg/l (EU Method C.2, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value, Nominal concentration)
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)

n-butyl acetate (123-86-4)

LC50 fish 1	18 mg/l (Equivalent or similar to OECD 203, 96 h, <i>Pimephales promelas</i> , Flow-through system, Fresh water, Experimental value)
LC50 fish 2	62 mg/l (<i>Leuciscus idus</i> , static system)
EC50 Daphnia 1	44 mg/l (48 h, <i>Daphnia</i> sp., Static system, Fresh water, Experimental value)
EC50 72h algae (1)	674.7 mg/l (<i>Desmodesmus subspicatus</i> , Static system, Fresh water, Experimental value)
NOEC chronic crustacea	23 mg/l

12.2. Persistence and degradability

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 (20d.)
Chemical oxygen demand (COD)	2.1 g O ₂ /g substance
ThOD	3.17 g O ₂ /g substance

xylene (1330-20-7)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
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2-methoxy-1-methylethyl acetate (108-65-6)

Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
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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.
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1,6-diisocyanatohexane (822-06-0)

Persistence and degradability	Not readily biodegradable in water.
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12.3. Bioaccumulative potential

ethylbenzene (100-41-4)

BCF fish 1	1 - 2.4 (Other, 6 week(s), Oncorhynchus kisutch, Flow-through system, Salt water, Experimental value)
Log Pow	3.6 (Experimental value, EU Method A.8: Partition Coefficient, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

xylene (1330-20-7)

BCF fish 1	7.2 - 25.9 (56 day(s), Oncorhynchus mykiss, Flow-through system, Fresh water, Read-across)
Log Pow	3.2 (Read-across, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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

Log Pow	1.2 (Experimental value, Equivalent or similar to OECD 117, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

n-butyl acetate (123-86-4)

BCF fish 1	15.3 (Calculated value)
Log Pow	2.3 (Test data, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

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

Log Pow	2.1 - 6
Bioaccumulative potential	Not established.

1,6-diisocyanatohexane (822-06-0)

Log Pow	1.08 (QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

ethylbenzene (100-41-4)

Surface tension	0.071 N/m (23 °C, 0.0582 g/l, EU Method A.5: Surface tension)
Log Koc	2.71 (log Koc, PCKOCWIN v1.66, QSAR)
Ecology - soil	Low potential for adsorption in soil. Toxic to soil organisms.

xylene (1330-20-7)

Surface tension	28.01 - 29.76 mN/m (25 °C)
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.

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

Surface tension	29.4 mN/m (20 °C, 100 vol %, EU Method A.5: Surface tension)
Log Koc	0.264 (log Koc, QSAR)
Ecology - soil	Highly mobile in soil.

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

1,6-diisocyanatohexane (822-06-0)	
Ecology - soil	Low potential for adsorption in soil.

12.5. Results of PBT and vPvB assessment

Component	
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
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
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
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

12.6. 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 / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1263	1263	1263	1263	1263
14.2. UN proper shipping name				
PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	Paint	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL
Transport document description				
UN 1263 PAINT RELATED MATERIAL, 3, III, (D/E)	UN 1263 PAINT RELATED MATERIAL, 3, III	UN 1263 Paint, 3, III	UN 1263 PAINT RELATED MATERIAL, 3, III	UN 1263 PAINT RELATED MATERIAL, 3, III
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
III	III	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	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

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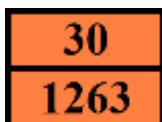
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14.6. Special precautions for user

Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 163, 640E, 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	:



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

Transport by sea

Special provisions (IMDG)	: 163, 223, 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
ERG code (IATA)	: 3L

Inland waterway transport

Classification code (ADN)	: F1
Special provisions (ADN)	: 163, 64E, 65
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

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Rail transport

Classification code (RID)	: F1
Special provisions (RID)	: 163, 640E, 650
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
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. Transport in bulk according to Annex II of Marpol and the IBC Code

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:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	S2038EV FAST HARDENER VOC - ethylbenzene - xylene - 2-methoxy-1-methylethyl acetate - isophorondiisocyanate homopolymer - 1,6-diisocyanatohexane - n-butyl acetate - solvent naphtha (petroleum), light aromatic - hexamethylene diisocyanate oligomers
3(a) 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	S2038EV FAST HARDENER VOC - ethylbenzene - xylene - 2-methoxy-1-methylethyl acetate - n-butyl acetate - solvent naphtha (petroleum), light aromatic
3(b) 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	S2038EV FAST HARDENER VOC - ethylbenzene - xylene - isophorondiisocyanate homopolymer - 1,6-diisocyanatohexane - Hexamethylene-1,6-diisocyanate Homopolymer - solvent naphtha (petroleum), light aromatic - hexamethylene diisocyanate oligomers
3(c) 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	solvent naphtha (petroleum), light aromatic
28. Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.	solvent naphtha (petroleum), light aromatic
29. Substances which are classified as germ cell mutagen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 3 or Appendix 4, respectively.	solvent naphtha (petroleum), light aromatic
40. 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.	ethylbenzene - xylene - 2-methoxy-1-methylethyl acetate - n-butyl acetate - solvent naphtha (petroleum), light aromatic

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 235 g/l

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

No additional information available

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15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 1 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 1
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), 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
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
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.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H330	Fatal if inhaled.
H332	Harmful 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.

SDS EU (REACH Annex II)

For professional use only.

The information contained within this Safety Data Sheet (SDS) is believed to be correct as of the date issued however it is subject to change from time to time. It does not purport to be all inclusive or exhaustive and shall only be used as a guide. U-POL makes no warranties, expressed or implied, including but not limited to, any implied warranty of fitness for a given purpose or usage. It is the Buyers responsibility to ensure the suitability of the products for their own use and to check the information is up to date. U-POL cannot be held responsible for the suitability of use for any of its products, considering the wide range of factors such as application, substrates and handling methods. Since these conditions of use are outside of our control, the company shall not be held liable for any damage resulting from handling or from contact with the product detailed. Moreover, addition of reducers, hardeners or other additives over and above U-POL's recommendations for use, may substantially alter the composition and hazards of the product. U-POL data sheets are available via the U-POL website at WWW.U-POL.COM.