

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

Product form : Mixture
Name : Clearcoat hardener
Trade name : HARD 5040

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

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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

NOVOL Sp. z o.o.
Żabikowska 7/9
62-052 KOMORNIKI, Poland
Poland
T +48618109800, F +48618109809
sekretariat@novol.com, www.novol.com
E-mail address of competent person responsible for the SDS : dokumentacja@novol.com

1.4. Emergency telephone number

Emergency number : 112

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

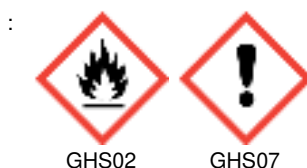
Flammable liquids, Category 3 H226
Acute toxicity (inhalation:dust,mist) Category 4 H332
Skin sensitisation, Category 1 H317
Specific target organ toxicity – Single exposure, Category 3, H336
Narcosis
Specific target organ toxicity – Single exposure, Category 3, H335
Respiratory tract irritation
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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

Hazard pictograms (CLP)



Signal word (CLP) : Warning
Contains : n-butyl acetate

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H317 - May cause an allergic skin reaction.

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Precautionary statements (CLP)	H332 - Harmful if inhaled. H335 - May cause respiratory irritation. H336 - May cause drowsiness or dizziness.
	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing vapours, spray. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves, protective clothing, eye protection, face protection. P312 - Call doctor if you feel unwell.
EUH-statements	: EUH204 - Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

Other hazards which do not result in classification	: Can react violently with alkalis, as well as a lot of organic products such as alcohols and amines. Reacts with water, generates gases or heat and overpressure : rupture containers. Polymerizes on exposure to temperature rise: pressure build-up may cause closed container to burst.
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Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hexamethylen-1,6-Diisocyanat Homopolimer	CAS-No.: 28182-81-2 EC-No.: 931-274-8 REACH-no: 01-2119485796-17	< 70	Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 STOT SE 3, H335
n-butyl acetate substance with national workplace exposure limit(s) (GB); 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	≤ 20	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066
heptan-2-one; methyl amyl ketone substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 110-43-0 EC-No.: 203-767-1 EC Index-No.: 606-024-00-3 REACH-no: 01-2119902391-49	< 12	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Acute Tox. 4 (Inhalation), H332 (ATE=1.5 mg/l/4h)

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
hexamethylene-di-isocyanate (Note 2)	CAS-No.: 822-06-0 EC-No.: 212-485-8 EC Index-No.: 615-011-00-1 REACH-no: 01-2119457571-37	< 0.06	Acute Tox. 3 (Inhalation), H331 (ATE=0.5 mg/l/4h) Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335

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

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

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Dry chemical, CO ₂ , alcohol-resistant foam or waterspray.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Carbon monoxide. Nitrogen oxides. Other toxic gases.
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5.3. Advice for firefighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

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

6.1.2. For emergency responders

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Disposal considerations. See Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from moisture. Protect against frost.

Storage temperature : 5 – 35 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

n-butyl acetate (123-86-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	n-Butyl acetate

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n-butyl acetate (123-86-4)	
IOEL TWA	241 mg/m ³
	50 ppm
IOEL STEL	723 mg/m ³
	150 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2019/1831
United Kingdom - Occupational Exposure Limits	
Local name	Butyl acetate
WEL TWA (OEL TWA)	724 mg/m ³
	150 ppm
WEL STEL (OEL STEL)	966 mg/m ³
	200 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
heptan-2-one; methyl amyl ketone (110-43-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Heptan-2-one
IOEL TWA	238 mg/m ³
	50 ppm
IOEL STEL	475 mg/m ³
	100 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	Heptan-2-one
WEL TWA (OEL TWA)	237 mg/m ³
	50 ppm
WEL STEL (OEL STEL)	475 mg/m ³
	100 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

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

8.1.3. Air contaminants formed

No additional information available

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8.1.4. DNEL and PNEC

hexamethylene-di-isocyanate (822-06-0)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	0.07 mg/m³
Long-term - local effects, inhalation	0.035 mg/m³
PNEC (STP)	
PNEC sewage treatment plant	8.42 mg/l
Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	1 mg/m³
Long-term - local effects, inhalation	0.5 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.127 mg/l
PNEC aqua (marine water)	0.0127 mg/l
PNEC aqua (intermittent, freshwater)	1.27 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	266701 mg/kg dwt
PNEC sediment (marine water)	26670 mg/kg dwt
PNEC (Soil)	
PNEC soil	53183 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	88 mg/l
n-butyl acetate (123-86-4)	
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
heptan-2-one; methyl amyl ketone (110-43-0)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	1516 mg/m³
Long-term - systemic effects, dermal	54.27 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	394.25 mg/m³

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heptan-2-one; methyl amyl ketone (110-43-0)	
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	23.32 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	84.31 mg/m ³
Long-term - systemic effects, dermal	23.32 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.0982 mg/l
PNEC aqua (marine water)	0.00982 mg/l
PNEC aqua (intermittent, freshwater)	0.982 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.89 mg/kg dwt
PNEC sediment (marine water)	0.189 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.321 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	12.5 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):



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

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Viton® II	6 (> 480 minutes)	0,7 mm		EN 374-3, EN ISO 374-1
Disposable gloves	Nitrile rubber (NBR)	2 (> 30 minutes)	0,4 mm		EN 374-3

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8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Respiratory protection			
Device	Filter type	Condition	Standard
Gas mask with filter type	Filter A1/B1		EN 14387

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Explosive properties	: No data available.
Lower explosion limit	: 0.9 Vol-% Hexamethylene-1,6-diisocyanate
Upper explosion limit	: 9.5 Vol-% Hexamethylene-1,6-diisocyanate
Flash point	: 32 °C
Auto-ignition temperature	: ≈ 450 °C
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Slightly soluble.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 14 hPa
Vapour pressure at 50°C	: Not available
Density	: ≈ 1 g/cm ³
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

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10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

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

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Carbon monoxide. Nitrogen oxides. Other toxic gases.

SECTION 11: Toxicological information

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

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

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ATE CLP (dust,mist)	1.829 mg/l/4h
hexamethylene-di-isocyanate (822-06-0)	
LD50 oral rat	710 mg/kg
LD50 dermal rat	> 7000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	599 mg/kg
LC50 Inhalation - Rat	0.124 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Remarks on results: other:, 95% CL: 111 - 140
LC50 Inhalation - Rat (Vapours)	0.24 mg/l
Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)	
LD50 oral rat	> 2500 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: other:
n-butyl acetate (123-86-4)	
LD50 oral rat	3200 ml/kg Source: ECHA
LD50 dermal rabbit	> 17600 mg/kg Source: ECHA
LC50 Inhalation - Rat (Vapours)	1802 mg/l Source: ECHA
heptan-2-one; methyl amyl ketone (110-43-0)	
LD50 oral rat	≈ 1600 mg/kg bodyweight Animal: rat, Remarks on results: other:

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heptan-2-one; methyl amyl ketone (110-43-0)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 16.7 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))
LC50 Inhalation - Rat (Vapours)	> 16.7 mg/l Source: ECHA
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
n-butyl acetate (123-86-4)	
pH	6.2 Temp.: 20 °C Concentration: 5,3 g/L
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
n-butyl acetate (123-86-4)	
pH	6.2 Temp.: 20 °C Concentration: 5,3 g/L
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: May cause drowsiness or dizziness. May cause respiratory irritation.
hexamethylene-di-isocyanate (822-06-0)	
STOT-single exposure	May cause respiratory irritation.
Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)	
STOT-single exposure	May cause respiratory irritation.
n-butyl acetate (123-86-4)	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
n-butyl acetate (123-86-4)	
LOAEL (oral, rat, 90 days)	500 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 798.2650 (90-Day Oral Toxicity in Rodents)
NOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 798.2650 (90-Day Oral Toxicity in Rodents)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
n-butyl acetate (123-86-4)	
Viscosity, kinematic	0.83 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'
heptan-2-one; methyl amyl ketone (110-43-0)	
Viscosity, kinematic	0.979 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties

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

11.2.2. Other information

No additional information available

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SECTION 12: Ecological information

12.1. Toxicity

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

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

hexamethylene-di-isocyanate (822-06-0)	
LC50 - Fish [1]	≥ 82.8 mg/l Source: ECHA
EC50 72h - Algae [1]	> 77.4 mg/l Source: ECHA
Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)	
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): other:
n-butyl acetate (123-86-4)	
LC50 - Fish [1]	18 mg/l Source: ECHA
EC50 - Crustacea [1]	44 mg/l Source: ECHA
EC50 - Other aquatic organisms [1]	32 mg/l Test organisms (species): Artemia salina
EC50 72h - Algae [1]	674.7 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	246 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
LOEC (chronic)	47.6 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	23.2 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
heptan-2-one; methyl amyl ketone (110-43-0)	
LC50 - Fish [1]	131 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 90.1 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	98.2 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	75.5 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
hexamethylene-di-isocyanate (822-06-0)	
Persistence and degradability	Not rapidly degradable
Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)	
Persistence and degradability	Not rapidly degradable
n-butyl acetate (123-86-4)	
Persistence and degradability	Not rapidly degradable
heptan-2-one; methyl amyl ketone (110-43-0)	
Persistence and degradability	Not rapidly degradable

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12.3. Bioaccumulative potential

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

Partition coefficient n-octanol/water (Log Pow)	1.08 Source: ICSC
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n-butyl acetate (123-86-4)

Partition coefficient n-octanol/water (Log Pow)	1.78 Source: HSDB
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heptan-2-one; methyl amyl ketone (110-43-0)

Partition coefficient n-octanol/water (Log Pow)	2.26 Source: ECHA
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12.4. Mobility in soil

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

Mobility in soil	5 – 286 Source: ECHA
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12.5. Results of PBT and vPvB assessment

Component

Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)
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Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Hexamethylen-1,6-Diisocyanat Homopolimer (28182-81-2)
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12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

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

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Do not discharge into drains.
Product/Packaging disposal recommendations	: This material and its container must be disposed of as hazardous waste. Do not dispose of with domestic waste. After cleaning, recycle or dispose of at an authorised site.
Additional information	: Flammable vapours may accumulate in the container.
European List of Waste (LoW, EC 2000/532)	: 08 05 01* - waste isocyanates 15 01 10* - packaging containing residues of or contaminated by dangerous substances European List of Waste (LoW, EC 2000/532)

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number or ID number		
UN 1866	UN 1866	UN 1866

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ADR	IMDG	IATA
14.2. UN proper shipping name		
RESIN SOLUTION	RESIN SOLUTION	Resin solution
Transport document description		
UN 1866 RESIN SOLUTION, 3, III, (D/E)	UN 1866 RESIN SOLUTION, 3, III (32°C c.c.)	UN 1866 Resin solution, 3, III
14.3. Transport hazard class(es)		
3	3	3
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-E EmS-No. (Spillage): S-E	Dangerous for the environment: No
No supplementary information available		

14.6. Special precautions for user

Overland transport

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



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

Transport by sea

Special provisions (IMDG) : 223, 955
Limited quantities (IMDG) : 5 L
Special packing provisions (IMDG) : PP1
Stowage category (IMDG) : A

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
ERG code (IATA) : 3L

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14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

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

REACH Annex XIV (Authorisation List)

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

REACH Candidate List (SVHC)

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

PIC Regulation (Prior Informed Consent)

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

POP Regulation (Persistent Organic Pollutants)

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

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)

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

Drug Precursors Regulation (EC 273/2004)

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

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

SECTION 8. SECTION 12.

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

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

Data sources : ECHA (European Chemicals Agency).

Training advice : Handle in accordance with good industrial hygiene and safety procedures.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2

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Full text of H- and EUH-statements:	
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
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.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH204	Contains isocyanates. May produce an allergic reaction.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 3	H226	On basis of test data
Acute Tox. 4 (Inhalation:dust,mist)	H332	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H336	Calculation method
STOT SE 3	H335	Calculation method

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