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

1.1. Product identifier

Mixture identification:

Trade name: LECHSYS ACRITOP STANDARD HARDENER

Trade code: L0290355

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

Recommended use: Coatings and paints, thinners, paint removers

Poliysocyanic compound - professional use

Liquid solution

Industrial uses

Uses advised against: N.A.

1.3. Details of the supplier of the safety data sheet

Company: Lechler SpA - Via Cecilio, 17 - 22100 Como - CO - Italy

Telephone: +39031586111

First Email: safety@lechler.eu

1.4. Emergency telephone number

UNITED KINGDOM: Emergency Number 0044 1606738600 - This telephone number is available during office hours only (8.45-16.45).

UNITED STATES OF AMERICA: Emergency Contact: Lechler SPA -Tel. +39-031-586301 (8.00-18.00).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Flam. Liq. 3	Flammable liquid and vapour.
Acute Tox. 4	Harmful if inhaled.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1	May cause an allergic skin reaction.
STOT SE 3	May cause respiratory irritation.
STOT SE 3	May cause drowsiness or dizziness.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1	May be fatal if swallowed and enters airways.
Aquatic Chronic 3	Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Hazard pictograms and Signal Word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
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.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.

Special Provisions:

EUH204	Contains isocyanates. May produce an allergic reaction.

Contains

Polysocyanate HDI Derivative

xylene

n-butyl acetate

Hydrocarbons, C9, aromatics

Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

2.3. Other hazards

Results of PBT and vPvB assessment Not a PBT, vPvB substance as per the criteria of the REACH Regulation. Endocrine disrupting properties-Toxicity The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Endocrine disrupting properties-Ecotoxicity The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: LECHSYS ACRITOP STANDARD HARDENER

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥40 - ≤50 %	Polysocyanate HDI Derivative	CAS:28182-81-2 EC:931-274-8	Skin Sens. 1, H317; Acute Tox. 4, H332; STOT SE 3, H335	01-2119485796-17
≥30 - ≤40 %	xylene	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412; STOT SE 3, H335	01-2119488216-32
≥20 - ≤25 %	n-butyl acetate	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066	01-2119485493-29

≥1 - ≤2.5 %	Hydrocarbons, C9, aromatics	EC:918-668-5	Flam. Liq. 3, H226; Asp. Tox. 1, H304; STOT SE 3, H335; STOT SE 3, H336; Aquatic Chronic 2, H411, EUH066, DECLP(*)	01-2119455851-35

(*)DECLP Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008.

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.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediatley and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
Polysocyanate HDI Derivative CAS: 28182-81-2	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 0.02 mg/m3 Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Short Term: 0.07 mg/m3 The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma in the categor
xylene CAS: 1330-20-7	ACGIH		Long Term: 20 ppm A4, BEI - URT and eye irr; hematologic eff; CNS impair
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 220 mg/m3 - 50 ppm; Short Term: 441 mg/m3 - 100 ppm Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to
	EU		Long Term: 221 mg/m3 - 50 ppm; Short Term: 442 mg/m3 - 100 ppm

			Behaviour Indicative 2000/39/EC
	EU		Identifies the possibility of significant uptake through the skin
n-butyl acetate CAS: 123-86-4	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 724 mg/m3 - 150 ppm; Short Term: 966 mg/m3 - 200 ppm
	EU		Long Term: 241 mg/m3 - 50 ppm; Short Term: 723 mg/m3 - 150 ppm Behaviour Indicative 2019/1831/EU
	ACGIH		Long Term: 50 ppm; Short Term: 150 ppm Eye and URT irr
Hydrocarbons, C9, aromatics	ACGIH		Long Term: 200 mg/m3 Damages to the central nervous system

Biological limit values

Polysocyanate HDI Derivative CAS: 28182-81-2	Biological Indicator: isocyanate-derived diamine; Sampling Period: At the end of the period of exposure Value: 1 µmol/mol creatinine; Medium: Urine Remark: UK. Biological monitoring guidance values
	Biological Indicator: spirometry Remark: Uruguay. Health surveillance of workers - Biological Exposure Indices (BEI).
	Biological Indicator: 4,4'-diaminodiphenylmethane; Sampling Period: At the end of a work week / at the end of a work day / at the end of a shift Value: 10 µg/g creatinine; Medium: Urine Remark: Austria. Regulation on health surveillance in the workplace 2014
xylene CAS: 1330-20-7	Biological Indicator: xylene; Sampling Period: End of turn Value: 1.5 mg/L; Medium: Blood Remark: Croatia. Biological Exposure Limits
	Biological Indicator: Methylhippuric acid; Sampling Period: End of turn Value: 1.5 g/l; Medium: Urine Remark: New Zealand. Biological Exposure Indices
	Biological Indicator: xylene; Sampling Period: End of turn Value: 1.5 mg/L; Medium: Blood Remark: Slovakia. Biological Limit Values
	Biological Indicator: sum of 2,3,4-methylhippuric acid; Sampling Period: End of turn Value: 2000 mg/L; Medium: Urine Remark: Slovakia. Biological Limit Values
	Biological Indicator: methylhypuric acid; Sampling Period: End of turn Value: 3 g/l; Medium: Urine Remark: Romania. Biological limit values
	Biological Indicator: methylhippuric acid (all isomers); Sampling Period: End of turn Value: 2 g/l; Medium: Urine Remark: Slovenia. BAT-values
	Biological Indicator: xylene; Sampling Period: Immediately after exposure or after working hours Value: 1.5 mg/L; Medium: Blood Remark: TRGS 903 - Biological limit values
	Biological Indicator: methylhippuric acid (all isomers); Sampling Period: Immediately after exposure or after working hours Value: 2 g/l; Medium: Urine Remark: TRGS 903 - Biological limit values
	Biological Indicator: Methylhippuric acid; Sampling Period: Last 4 hours of shift Value: 2 mg/L; Medium: Urine Remark: South Africa. Hazardous Chemical Substances Regulations, Biological Exposure Indices.
	Biological Indicator: total (o-, m-, p-)methylhippuric acid; Sampling Period: End of turn; End of working week Value: 800 mg/L; Medium: Urine Remark: Occupational exposure limits based on biological monitoring (JSOH).
	Biological Indicator: methyl hippuric acid; Sampling Period: At the end of a work week / at the end of a work day / at the end of a shift Value: 1.5 g/l; Medium: Urine

Remark: Austria. Regulation on health surveillance in the workplace 2014

Biological Indicator: xylene; Sampling Period: End of workday
Value: 1 mg/L; Medium: Blood
Remark: Austria. Regulation on health surveillance in the workplace 2014

Biological Indicator: Methylhippuric acid; Sampling Period: At the end of exposure, in 4 hours
Value: 2 mg/L; Medium: Urine
Remark: Kenya. Occupational Safety and Health Act (CAP.514), Schedule I, Table 3 Biological Exposure Limits

Biological Indicator: methyl hippuric acid; Sampling Period: After shift
Value: 5 Millimoles per liter; Medium: Urine
Remark: Finland. Biological limit values

Biological Indicator: methyl hippuric acid; Sampling Period: Immediately after exposure or after working hours
Value: 2 g/l; Medium: Urine
Remark: Svizzera. Lista di valori BAT

Predicted No Effect Concentration (PNEC) values

Polysocyanate HDI Derivative CAS: 28182-81-2	Exposure Route: Marine water; PNEC Limit: 0.0127 mg/l
	Exposure Route: Fresh Water; PNEC Limit: 0.127 mg/l
	Exposure Route: Marine water sediments; PNEC Limit: 26670 mg/kg
	Exposure Route: Freshwater sediments; PNEC Limit: 266700 mg/kg
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1.27 mg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 38.3 mg/l
	Exposure Route: Soil; PNEC Limit: 53182 mg/kg
xylene CAS: 1330-20-7	Exposure Route: Fresh Water; PNEC Limit: 0.32 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.32 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.32 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 12.46 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 12.46 mg/kg
	Exposure Route: Soil; PNEC Limit: 2.31 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6.58 mg/l
n-butyl acetate CAS: 123-86-4	Exposure Route: Fresh Water; PNEC Limit: 0.18 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.36 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.01 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 0.98 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0.09 mg/kg
	Exposure Route: Soil; PNEC Limit: 0.09 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 35.6 mg/l

Derived No Effect Level (DNEL) values

Polysocyanate HDI Derivative CAS: 28182-81-2	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 0.5 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 1 mg/m3
xylene CAS: 1330-20-7	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Consumer: 65.3 mg/m3
	Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects Consumer: 12.5 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 442 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 212 mg/kg

	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 221 mg/m3
n-butyl acetate CAS: 123-86-4	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 300 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 600 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Industry: 300 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Industry: 600 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 11 mg/kg dry weight (d.w.)
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Industry: 11 mg/kg dry weight (d.w.)
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Consumer: 35.7 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Consumer: 300 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Consumer: 35.7 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Consumer: 300 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Consumer: 6 mg/kg dry weight (d.w.)
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Consumer: 6 mg/kg dry weight (d.w.)
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 2 mg/kg dry weight (d.w.)
	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 2 mg/kg dry weight (d.w.)
Hydrocarbons, C9, aromatics	Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects Consumer: 11 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Consumer: 32 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Consumer: 11 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 150 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 25 mg/kg

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Colour: Colourless
Odour: N.A.
pH: Not Relevant
Kinematic viscosity: <= 20,5 mm2/sec (40 °C)
Melting point/freezing point: N.A.
Boiling point or initial boiling point and boiling range: N.A.
Flash point: 30 °C (86 °F)
Lower and upper explosion limit: N.A.
Relative vapour density: N.A.
Vapour pressure: N.A.
Density and/or relative density: 0.97 g/cm3
Solubility in water: N.A.
Solubility in oil: N.A.
Partition coefficient n-octanol/water (log value): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Flammability: The product is classified Flam. Liq. 3 H226
Kinematic viscosity m2/s (40°C) <= 20,5 mm2/sec (40 °C)
Viscosity: = 27.00 s - Method: ASTM D 1200 82 - Section: 2.00 mm

Particle characteristics:

Particle size: N.A.

9.2. Other information

Evaporation rate: N.A.
Miscibility: N.A.
Conductivity: N.A.
No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

a) acute toxicity	The product is classified: Acute Tox. 4(H332)
	ATEmix - Dermal : 3333.33 mg/kg bw
	ATEmix - Inhalation (Vapours) : 14.6169 mg/l
b) skin corrosion/irritation	The product is classified: Skin Irrit. 2(H315)
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met

h) STOT-single exposure	The product is classified: STOT SE 3(H335), STOT SE 3(H336)
i) STOT-repeated exposure	The product is classified: STOT RE 2(H373)
j) aspiration hazard	The product is classified: Asp. Tox. 1(H304)

Toxicological information on main components of the mixture:

Polysocyanate HDI Derivative	a) acute toxicity	LD50 Oral Rat > 2500 mg/kg	OECD Test Guideline 423
		LC50 Inhalation Rat = 0.39 mg/l 4h	OECD Test Guideline 403
		LD50 Skin Rat > 2000 mg/kg	OECD Test Guideline 402
xylene	a) acute toxicity	LD50 Oral Mouse = 5627 mg/kg	
		LC50 Inhalation Rat = 6700 Ppm 4h	
		LD50 Skin Rabbit > 5000 mg/kg	
n-butyl acetate	a) acute toxicity	LD50 Oral Rat = 10760 mg/kg	OECD Test Guideline 423
		LC50 Inhalation > 20 mg/l 4h	
		LD50 Skin Rabbit > 14112 mg/kg	OECD Test Guideline 402
Hydrocarbons, C9, aromatics	a) acute toxicity	LD50 Oral Rat = 3592 mg/kg	OECD Test Guideline 401
		LD50 Skin Rabbit > 3160 mg/kg	OECD Test Guideline 402
	f) carcinogenicity	Carcinogenicity - Not classified - Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008.	

11.2. Information on other hazards

Endocrine disrupting properties:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Harmful to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 3(H412)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Polysocyanate HDI Derivative	CAS: 28182-81-2 - EINECS: 931-274-8	a) Aquatic acute toxicity : LC50 Fish Danio rerio (zebra fish) > 100 mg/L 96 H
		Daphnia magna (Water flea) > 100 mg/L 48 H
		e) Plant toxicity : Algae > 1000 mg/L 72 H
xylene	CAS: 1330-20-7 - EINECS: 215-535-7 - INDEX: 601-022-00-9	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) = 2.6 mg/L 96 H
		a) Aquatic acute toxicity : IC50 Invertebrates Daphnia magna (Water flea) = 1 mg/L 24 H
		e) Plant toxicity : EC0 Algae Pseudokirchneriella subcapitata (green algae) = 0.44 mg/L 72 H
		b) Aquatic chronic toxicity : NOEC Fish Oncorhynchus mykiss (rainbow trout) > 1.3 mg/L 56 D
		e) Plant toxicity : Algae Pseudokirchneriella subcapitata (green algae) = 4.36 mg/L 72 H

n-butyl acetate	CAS: 123-86-4 - EINECS: 204-658-1 - INDEX: 607-025-00-1	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas (fathead minnow) = 18 mg/L 96 H OECD Test Guideline 203 a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 44 mg/L 48 H OECD Test Guideline 202 e) Plant toxicity : EC50 Algae Selenastrum capricornutum (green algae) = 397 mg/L 72 H OECD Test Guideline 201 c) Bacteria toxicity : IC50 Microorganisms Tetrahymena pyriformis = 356 mg/L 40 H
Hydrocarbons, C9, aromatics	EINECS: 918-668-5	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) = 9.2 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 3.2 mg/L 48 H e) Plant toxicity : Algae algae = 2.9 mg/L 72 H

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration >= 0.1%

12.6. Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number or ID number

1263

14.2. UN proper shipping name

ADR-Shipping Name: PAINT RELATED MATERIAL

IATA-Shipping Name: PAINT RELATED MATERIAL

IMDG-Shipping Name: PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Toxic ingredients quantity: 0.00

Very toxic ingredients quantity: 0.00

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: F-E, S-E

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR exempt:

ADR-Label: 3

ADR - Hazard identification number: -

ADR-Special Provisions: 163 367 650

ADR-Transport category (Tunnel restriction code): 3 (E)

Air (IATA):

IATA-Passenger Aircraft: 355

IATA-Cargo Aircraft: 366

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisions: A3 A72 A192

Sea (IMDG):

IMDG-Stowage and handling: Category A

IMDG-Segregation: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 163 223 367 955

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

Regulation (EU) n. 2020/878

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3, 40

Restrictions related to the substances contained: 75

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Product belongs to category: P5c	5000	50000

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

German Water Hazard Class.

2: Hazard to waters

German Lagerklasse according to TRGS 510:

LGK 3

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

DIRECTIVE 2010/75/EU (VOC directive)

Volatile Organic compounds - VOCs = 57.70 %

Volatile Organic compounds - VOCs = 562.00 g/L

Estimated Total Content of Water 0.00 %

Estimated Total Solid Content 42.30 %

Classification according to VbF

Classification according to VbF Exempt

Mal-Code (Denmark)

Mal-Code (Denmark)	Mal Factor	Unit of Measure	Revision Status / Number	Regulatory Base
4 - 5	2669	m3 air/10 g	1993	Administrative determined MAL-Factors

Biocides

REGULATION (EC) No 528/2012

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
EUH066	Repeated exposure may cause skin dryness or cracking.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
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.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method

STOT RE 2, H373	Calculation method
Asp. Tox. 1, H304	Calculation method
Aquatic Chronic 3, H412	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: KAFH

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available

NA: Not available

NIOSH: National Institute for Occupational Safety and Health

NOAEL: No Observed Adverse Effect Level

OSHA: Occupational Safety and Health Administration

PBT: Persistent, Bioaccumulative and Toxic

PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information