SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

PA 2K HS trdilec 4500_2,5 L

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2.0	23.05.2024	MAT00P470888 DE/EN	Date of first issue: 06.03.2023

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

1.1 Product identifier

Trade name : PA 2K HS trdilec 4500_2,5 L

Product code : 47088823
372766

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

Use of the Sub-stance/Mixture : PC9a: Coatings and paints, thinners, paint removers

Recommended restrictions on use : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : PROSOL Lacke + Farben GmbH
Schneidmühlweg 12
63741 Aschaffenburg
Germany
www.prosol-farben.de

Telephone Company : 49 (0) 6021 3480 0

Responsible/issuing person : 49 (0) 6021 3480 0
info@prosol-farben.de

1.4 Emergency telephone number

+49 (0) 551/19240 Giftinformationszentrum GIZ-Nord +49 (0) 551/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.

Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements :

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist or vapours.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:

Hexamethylene-di-isocyanate, polymer
n-butyl acetate
reaction mixture of ethylbenzene, m-xylene and p-xylene
toluene
dibutyltin dilaurate
hexamethylene-di-isocyanate

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: 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.

Toxicological information: 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 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hexamethylene-di-isocyanate, polymer	28182-81-2 500-060-2 01-2119485796-17	Acute Tox. 4; H332 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	>= 50 - < 70
n-butyl acetate	123-86-4 204-658-1 607-025-00-1 01-2119485493-29	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) EUH066	>= 20 - < 30
reaction mixture of ethylbenzene, m-xylene and p-xylene	- 905-562-9 01-2119555267-33	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373 Asp. Tox. 1; H304	>= 10 - < 20
toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 3 - < 10

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	64742-95-6 265-199-0 649-356-00-4 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 2,5 - < 10
dibutyltin dilaurate	77-58-7 201-039-8 050-030-00-3 01-2119496068-27	Eye Irrit. 2; H319 Skin Sens. 1; H317 Muta. 2; H341 Repr. 1B; H360FD STOT SE 1; H370 STOT RE 1; H372 (Immune system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0,1 - < 0,25
hexamethylene-di-isocyanate	822-06-0 212-485-8 615-011-00-1 01-2119457571-37	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system) --- specific concentration limit Resp. Sens. 1; H334 >= 0,5 % Skin Sens. 1; H317 >= 0,5 %	< 0,1

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.

If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Storage class (TRGS 510)	:	3
Further information on storage stability	:	No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s)	:	For further information, refer to the product technical data sheet. Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
n-butyl acetate	123-86-4	AGW	62 ppm	DE TRGS

			300 mg/m3	900
	Peak-limit: excursion factor (category): 2;(I)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		STEL	150 ppm 723 mg/m3	2019/1831/EU
	Further information: Indicative			
		TWA	50 ppm 241 mg/m3	2019/1831/EU
	Further information: Indicative			
		MAK	100 ppm 480 mg/m3	DE DFG MAK
	Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
reaction mixture of ethylbenzene, m-xylene and p-xylene	1330-20-7	TWA	50 ppm 221 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	50 ppm 220 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: Skin absorption			
		MAK	50 ppm 220 mg/m3	DE DFG MAK
	Further information: Danger of absorption through the skin, Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C			
toluene	108-88-3	TWA	50 ppm 192 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		STEL	100 ppm 384 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		AGW	50 ppm 190 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		MAK	50 ppm 190 mg/m3	DE DFG MAK
	Further information: Danger of absorption through the skin, Damage to the			

	embryo or foetus is unlikely when the MAK value or the BAT value is observed			
dibutyltin dilaurate	77-58-7	AGW (Vapour and aerosols)	0,0018 ppm 0,009 mg/m3 (Tin)	DE TRGS 900
	Peak-limit: excursion factor (category): 1;(I)			
	Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, harm to the unborn child can not be excluded			
		MAK	0,004 ppm 0,02 mg/m3 (Tin)	DE DFG MAK
	Further information: Substances that cause cancer in humans or animals or that are considered to be carcinogenic for humans and for which a MAK value can be derived., According to currently available information damage to the embryo or foetus cannot be excluded after exposure to concentrations at the level of the MAK and BAT values			
hexamethylene-di-isocyanate	822-06-0	AGW	0,005 ppm 0,035 mg/m3	TRGS 430
	Peak-limit: excursion factor (category): 1;=2=(I)			
	Further information: In well-founded cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., airway sensitizing substance			
		AGW (Vapour and aerosols)	0,005 ppm 0,035 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 1;=2=(I)			
	Further information: In well-found cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., Substance sensitizing through the respiratory system			
		MAK	0,005 ppm 0,035 mg/m3	DE DFG MAK
	Further information: Danger of sensitization of the airways and the skin, Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C			
		Mow	0,01 ppm 0,07 mg/m3	DE DFG MAK
	Further information: Danger of sensitization of the airways and the skin, Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
reaction mixture of ethylbenzene, m-xylene and p-xylene	1330-20-7	methylhippuric acid (all isomers): 2.000 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
		Methylhippuric acid (toluric acid) (all isomers): 2.000	Immediately after exposition or after working hours	DE DFG BAT

		mg/l (Urine)		
toluene	108-88-3	toluene: 600 µg/l (Blood)	End of shift	TRGS 903
		o-cresol: 1,5 mg/l (Urine)	In case of long-term exposure: after more than one shift, Immediately after exposure or after working hours	TRGS 903
		toluene: 75 µg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
		toluene: 75 µg/l (Urine)	Immediately after exposition or after working hours	DE DFG BAT
		toluene: 600 µg/l (Blood)	End of shift	DE DFG BAT
		o-cresol: 1,5 mg/l (Urine)	end of shift, for long-term exposures after several previous shifts, Immediately after exposition or after working hours	DE DFG BAT
hexamethylene-di-isocyanate	822-06-0	hexamethylendiamine: 15 µg/g creatinine (Urine)	Immediately after exposure or after working hours	TRGS 903
		hexamethylenediamine: 15 µg/g creatinine (Urine)	Immediately after exposition or after working hours	DE DFG BAT

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Hexamethylene-di-isocyanate, polymer	Workers	Inhalation	Long-term local effects	0,5 mg/m3
	Workers	Inhalation	Long-term systemic effects	1 mg/m3
n-butyl acetate	Workers	Inhalation	Acute systemic effects	600 mg/m3
	Workers	Inhalation	Acute local effects	600 mg/m3
	Workers	Inhalation	Long-term systemic effects	48 mg/m3
	Workers	Inhalation	Long-term local effects	300 mg/m3
	Consumers	Inhalation	Acute systemic effects	300 mg/m3
	Consumers	Inhalation	Acute local effects	300 mg/m3

	Consumers	Inhalation	Long-term systemic effects	12 mg/m3
	Consumers	Inhalation	Long-term local effects	35,7 mg/m3
	Consumers	Dermal	Long-term systemic effects	3,4 mg/kg bw/day
	Consumers	Dermal	Acute systemic effects	6 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	2 mg/kg bw/day
	Consumers	Oral	Acute systemic effects	2 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	7 mg/kg bw/day
	Workers	Dermal	Acute systemic effects	11 mg/kg bw/day
reaction mixture of ethylbenzene, m-xylene and p-xylene	Workers	Inhalation	Long-term systemic effects	77 mg/m3
	Consumers	Inhalation	Long-term local effects	65,3 mg/m3
	Workers	Inhalation	Acute systemic effects	442 mg/m3
	Workers	Inhalation	Acute local effects	289 mg/m3
	Consumers	Inhalation	Acute systemic effects	260 mg/m3
	Workers	Inhalation	Long-term local effects	221 mg/m3
	Consumers	Inhalation	Long-term systemic effects	14,8 mg/m3
	Consumers	Inhalation	Acute local effects	260 mg/m3
	Consumers	Dermal	Long-term systemic effects	108 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	16 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	180 mg/kg bw/day
toluene	Workers	Inhalation	Long-term systemic effects	192 mg/m3
	Workers	Inhalation	Long-term local effects	192 mg/m3
	Consumers	Inhalation	Acute systemic effects	226 mg/m3
	Consumers	Inhalation	Acute local effects	226 mg/m3
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified	Workers	Inhalation	Long-term systemic effects	150 mg/m3
	Consumers	Inhalation	Long-term systemic effects	32 mg/m3
	Consumers	Dermal	Long-term systemic	11 mg/kg

			effects	bw/day
	Workers	Dermal	Long-term systemic effects	25 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	11 mg/kg bw/day
dibutyltin dilaurate	Workers	Inhalation	Long-term systemic effects	0,02 mg/m3
	Consumers	Inhalation	Long-term systemic effects	0,0046 mg/m3
	Consumers	Inhalation	Acute systemic effects	0,04 mg/m3
	Workers	Dermal	Long-term systemic effects	0,43 mg/kg bw/day
	Workers	Dermal	Acute systemic effects	2,08 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	0,16 mg/kg bw/day
	Consumers	Dermal	Acute systemic effects	0,5 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,0031 mg/kg bw/day
	Consumers	Oral	Acute systemic effects	0,02 mg/kg bw/day
hexamethylene-di-isocyanate	Workers	Inhalation	Long-term systemic effects	0,035 mg/m3
	Workers	Inhalation	Acute systemic effects	0,07 mg/m3
	Workers	Inhalation	Long-term local effects	0,035 mg/m3
	Workers	Inhalation	Acute local effects	0,07 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Hexamethylene-di-isocyanate, polymer	Soil	505 mg/kg dry weight (d.w.)
	Marine water	0,01 mg/l
	Fresh water	0,1 mg/l
	Marine sediment	253 mg/kg dry weight (d.w.)
	Fresh water sediment	2530 mg/kg dry weight (d.w.)
	Sewage treatment plant	100 mg/l
	Intermittent use/release	1 mg/l
n-butyl acetate	Soil	0,0903 mg/kg dry weight (d.w.)
	Marine water	0,018 mg/l
	Fresh water	0,18 mg/l
	Marine sediment	0,0981 mg/kg dry weight (d.w.)
	Fresh water sediment	0,981 mg/kg dry weight (d.w.)

	Sewage treatment plant	35,6 mg/l
	Intermittent use/release	0,36 mg/l
reaction mixture of ethylbenzene, m-xylene and p-xylene	Soil	2,31 mg/kg dry weight (d.w.)
	Marine water	0,327 mg/l
	Fresh water	0,327 mg/l
	Marine sediment	12,46 mg/kg dry weight (d.w.)
	Fresh water sediment	12,46 mg/kg dry weight (d.w.)
	Sewage treatment plant	6,58 mg/l
	Intermittent use/release	0,327 mg/l
toluene	Soil	2,89 mg/kg dry weight (d.w.)
	Marine water	0,68 mg/l
	Fresh water	0,68 mg/l
	Marine sediment	16,39 mg/kg dry weight (d.w.)
	Fresh water sediment	16,39 mg/kg dry weight (d.w.)
	Sewage treatment plant	13,61 mg/l
	Intermittent use/release	0,68 mg/l
dibutyltin dilaurate	Fresh water	0,000463 mg/l
	Sewage treatment plant	100 mg/l
	Intermittent use/release	0,00463 mg/l
hexamethylene-di-isocyanate	Soil	0,0026 mg/kg dry weight (d.w.)
	Marine water	0,00774 mg/l
	Fresh water	0,0774 mg/l
	Marine sediment	0,001344 mg/kg dry weight (d.w.)
	Fresh water sediment	0,01334 mg/kg dry weight (d.w.)
	Sewage treatment plant	8,42 mg/l
	Intermittent use/release	0,774 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Equipment should conform to EN 166
Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection

Gloves : Viton® (> 0,6 mm; < 240 min); ISO EN374
PE laminate (> 0,1 mm; < 240 min); ISO EN374

Remarks : The suitability for a specific workplace should be discussed

		with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Equipment should conform to EN 14387
Filter type	:	Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	colourless
Odour	:	solvent-like
Odour Threshold	:	No data available
Melting point/freezing point	:	-78,0 °C (calculation method (principal components, lowest value))
Boiling point/boiling range	:	126 °C (calculation method (principal components, lowest value))
Flammability	:	Static-accumulating flammable liquid., Combustible Solids
Upper explosion limit / Upper flammability limit	:	7,5 %(V) (calculation method (principal components, highest value))
Lower explosion limit / Lower flammability limit	:	1,1 %(V) (calculation method (principal components, highest value))
Flash point	:	25 °C(calculation method (principal components, lowest value))
Ignition temperature	:	425 °C(calculation method (principal components, highest value))

Decomposition temperature	:	No decomposition if stored and applied as directed. Hazardous decomposition products formed under fire conditions.
pH	:	Not applicable
Viscosity		
Viscosity, kinematic	:	> 20,5 mm2/s (40 °C)
Solubility(ies)		
Water solubility	:	partly miscible
Solubility in other solvents	:	Description: miscible with most organic solvents
Partition coefficient: n-octanol/water	:	log Pow: 2,77 - 3,15(calculation method (principal components, highest value))
Relative density	:	No data available
Density	:	1,02 g/cm3
Relative vapour density	:	4(calculation method (principal components, lowest value))

9.2 Other information

Explosives	:	Not applicable
Oxidizing properties	:	Sustains combustion
VOC	:	(Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)) 45,85 %

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Incompatible with strong acids and bases.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if inhaled.
Harmful if inhaled.

Product:

Acute inhalation toxicity : Acute toxicity estimate: 16,96 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Components:

Hexamethylene-di-isocyanate, polymer:

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.

n-butyl acetate:

Acute oral toxicity : LD50 Oral (Rat): >= 10.760 mg/kg

Acute dermal toxicity : LD50 (Rabbit): >= 5.000 mg/kg

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Acute oral toxicity : LD50 Oral (Rat): >= 8.700 mg/kg

Acute inhalation toxicity : LC50 (Rat): 27,14 mg/l
Test atmosphere: vapour

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after single contact withskin.

toluene:

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 28 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

hexamethylene-di-isocyanate:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : Assessment: The component/mixture is highly toxic after short term inhalation.

Skin corrosion/irritation

Causes skin irritation.
Causes skin irritation.

Product:

Remarks : May cause skin irritation and/or dermatitis.

Components:

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Result : irritating

toluene:

Result : irritating

Serious eye damage/eye irritation

Causes serious eye irritation.
Causes serious eye irritation.

Product:

Remarks : May cause irreversible eye damage.

Components:

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Result : Eye irritation

dibutyltin dilaurate:
Result : Eye irritation

Respiratory or skin sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified due to lack of data.

Product:
Remarks : Causes sensitisation.

Components:

Hexamethylene-di-isocyanate, polymer:
Result : Probability or evidence of skin sensitisation in humans

dibutyltin dilaurate:
Result : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity
Not classified based on available information.
Not classified due to lack of data.

Components:

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:
Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

dibutyltin dilaurate:
Germ cell mutagenicity- Assessment : In vitro tests showed mutagenic effects

Carcinogenicity
Not classified based on available information.
Not classified due to lack of data.

Components:

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Reproductive toxicity

Suspected of damaging the unborn child.
Suspected of damaging the unborn child.

Components:

toluene:

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility ,and/or on development, based on animal experiments.

dibutyltin dilaurate:

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility ,and/or on development, based on animal experiments

STOT - single exposure

May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Components:

Hexamethylene-di-isocyanate, polymer:

Assessment : May cause respiratory irritation.

n-butyl acetate:

Assessment : May cause drowsiness or dizziness.

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Assessment : May cause respiratory irritation.

toluene:

Assessment : May cause drowsiness or dizziness.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Assessment : May cause drowsiness or dizziness.

Assessment : May cause respiratory irritation.

dibutyltin dilaurate:

Assessment : Causes damage to organs.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.
May cause damage to organs through prolonged or repeated exposure.

Components:

reaction mixture of ethylbenzene, m-xylene and p-xylene:

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

toluene:

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

dibutyltin dilaurate:

Assessment : Causes damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.
Not classified due to lack of data.

Components:

reaction mixture of ethylbenzene, m-xylene and p-xylene:

May be fatal if swallowed and enters airways.

toluene:

May be fatal if swallowed and enters airways.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : 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.

Further information

Product:

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Components:

n-butyl acetate:

Toxicity to algae/aquatic plants : NOEC (Desmodesmus subspicatus (green algae)): > 200 mg/l

EC50 (Desmodesmus subspicatus (green algae)): >= 647,7 mg/l
Exposure time: 72 h

Toxicity to microorganisms : IC50 (Tetrahymena pyriformis): 356 mg/l
Exposure time: 40 h

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Toxicity to fish : LC50 (Fish): >= 1 - 10 mg/l

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): >= 1 - 10 mg/l

Toxicity to microorganisms : EC50 (Bacteria): >= 1 - 100 mg/l

toluene:

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Toxicity to fish : LC50 (Fish): > 1 - 10 mg/l

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): > 1 - 10 mg/l

Toxicity to microorganisms : EC50 (Bacteria): > 1 - 10 mg/l

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

dibutyltin dilaurate:

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Components:

n-butyl acetate:

Biodegradability	:	Result: Biodegradable Biodegradation: 83 % Exposure time: 28 d Method: OECD Test Guideline 301D
Stability in water	:	Degradation half life: 78 d pH: 8 Hydrolyses slowly.
Photodegradation	:	Decomposes rapidly in contact with light.

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Biodegradability	:	Readily biodegradable.
Photodegradation	:	Decomposes rapidly in contact with light.

12.3 Bioaccumulative potential

Components:

n-butyl acetate:

Bioaccumulation	:	Bioconcentration factor (BCF): 15 Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: 1,81

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Bioaccumulation	:	Bioconcentration factor (BCF): 25,9 Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: 2,77 - 3,15

toluene:

Partition coefficient: n-octanol/water	:	log Pow: 2,65

12.4 Mobility in soil

Components:

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Distribution among environmental compartments	:	Koc: 537, log Koc: 2,73 Moderately mobile in soils The product evaporates from soil.
Stability in soil	:	Dissipation time: 23 d Percentage dissipation: 50 % (DT50)

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment	:	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

Product:

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

Waste Code	:	08 00 00, WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS 08 01 00, wastes from MFSU and removal of paint and varnish 08 01 11, waste paint and varnish containing organic solvents or other hazardoussubstances 15 00 00, WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED 15 01 00, packaging (including separately collected municipal packaging waste) 15 01 10, packaging containing residues of or contaminated by hazardoussubstances HP3, Flammable HP4, Irritant - skin irritation and eye damage HP5, Specific Target Organ Toxicity (STOT)/Aspiration Toxicity HP6, Acute Toxicity HP10, Toxic for reproduction HP13, Sensitising

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 1263
ADR	:	UN 1263
RID	:	UN 1263
IMDG	:	UN 1263
IATA	:	UN 1263

14.2 UN proper shipping name

ADN	:	PAINT
ADR	:	PAINT
RID	:	PAINT
IMDG	:	PAINT
IATA	:	Paint

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	3	
ADR	:	3	
RID	:	3	

IMDG	:	3
IATA	:	3

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

ADR

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3
Tunnel restriction code	:	(D/E)

RID

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

IMDG

Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E

IATA (Cargo)

Packing instruction (cargo aircraft)	:	366
Packing instruction (LQ)	:	Y344
Packing group	:	III
Labels	:	Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft)	:	355
Packing instruction (LQ)	:	Y344
Packing group	:	III
Labels	:	Flammable Liquids

14.5 Environmental hazards

ADN

Environmentally hazardous	:	no

ADR

Environmentally hazardous	:	no

RID

Environmentally hazardous	:	no

IMDG

Marine pollutant	:	no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 75, 3 If you intend to use this product as tattoo ink, please contact your vendor. toluene (Number on list 48) dibutyltin dilaurate (Number on list 30, 20)
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	dibutyltin dilaurate
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c	FLAMMABLE LIQUIDS
	34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar proper-

ties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

Water hazard class (Germany)	:	WGK 3 highly hazardous to water Classification according to AwSV, Annex 1 (5.2)
TA Luft List (Germany)	:	5.2.1: Total dust: Not applicable 5.2.2: Inorganic substances in powdered form: Not applicable 5.2.4: Inorganic substances in gaseous form: Not applicable 5.2.5: Organic Substances: Class 1: 0,05 % hexamethylene-di-isocyanate 5.2.7.1.1: Carcinogenic substance: Not applicable 5.2.7.1.1: Quartz fine dust PM4: Not applicable 5.2.7.1.1: Formaldehyde: Not applicable 5.2.7.1.1: fibres: Not applicable 5.2.7.1.2: Germ cell mutagens: Not applicable 5.2.7.1.3: Substances toxic to reproduction: others: 0,1 % dibutyltin dilaurate 5.2.7.2: Poorly degradable, easily enrichable and highly toxic organic substances: Not applicable
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 45,85 %

Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.

H226	:	Flammable liquid and vapour.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H330	:	Fatal 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.
H341	:	Suspected of causing genetic defects.
H360FD	:	May damage fertility. May damage the unborn child.
H361d	:	Suspected of damaging the unborn child.
H370	:	Causes damage to organs.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.
EUH066	:	Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Muta.	:	Germ cell mutagenicity
Repr.	:	Reproductive toxicity
Resp. Sens.	:	Respiratory sensitisation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2006/15/EC	:	Europe. Indicative occupational exposure limit values
2019/1831/EU	:	Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values
DE DFG BAT	:	Germany. MAK BAT Annex XIII
DE DFG MAK	:	Germany. MAK BAT Annex IIa
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
TRGS 430	:	Germany. TRGS 430 - Isocyanates
TRGS 903	:	TRGS 903 - Biological limit values
2000/39/EC / TWA	:	Limit Value - eight hours

2000/39/EC / STEL	:	Short term exposure limit
2006/15/EC / TWA	:	Limit Value - eight hours
2006/15/EC / STEL	:	Short term exposure limit
2019/1831/EU / TWA	:	Limit Value - eight hours
2019/1831/EU / STEL	:	Short term exposure limit
DE DFG MAK / Mow	:	Momentary value
DE DFG MAK / MAK	:	MAK value
DE TRGS 900 / AGW	:	Time Weighted Average
TRGS 430 / AGW	:	Occupational Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Acute Tox. 4	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method

Skin Sens. 1	H317	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 3	H335	Calculation method
STOT SE 3	H336	Calculation method
STOT RE 2	H373	Calculation method
Aquatic Chronic 3	H412	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.