

PT All-in-1 PLUS

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

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

Primer / adhesion promoter

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	PMA/TOOLS AG	
Street:	Siemensring 42	
Place:	D-47877 Willich - Germany	
Telephone:	+49 2154 922230	Telefax: +49 2154 922255
e-mail:	info@pma-tools.de	
Contact person:	Michael Münter	
e-mail:	msds@pma-tools.de (Please DO NOT use for requesting Safety Data Sheets.)	
Internet:	www.pma-tools.de	
Responsible Department:	Laboratory	

1.4. Emergency telephone number:

Telephone number of the company in case of emergencies (24 h):

+49 (0) 700 / 24 112 112 (PMR)

+1 872 5888271 (PMR)

Emergency information services / official advisory body:

<UK> National Poisons Information Service (24 h): 0870 600 6266 (UK only)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**

Flam. Liq. 2; H225

Eye Irrit. 2; H319

STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Hazard components for labelling**

butanone

ethyl acetate

Signal word:

Danger

Pictograms:**Hazard statements**

H225

Highly flammable liquid and vapour.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

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Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261 Avoid breathing vapour.
- P280 Wear protective gloves and eye/face protection.
- P370+P378 In case of fire: Use Foam, Extinguishing powder, Carbon dioxide (CO₂) to extinguish.

Special labelling of certain mixtures

- EUH066 Repeated exposure may cause skin dryness or cracking.
- EUH204 Contains isocyanates. May produce an allergic reaction.
As from 24 August 2023 adequate training is required before industrial or professional use.

Additional advice on labelling

Further information: <https://www.feica.eu/PUinfo>

2.3. Other hazards

Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
In use may form flammable/explosive vapour-air mixture. The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Primers
Contains: Solvent

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
78-93-3	butanone			20 - 40 %
	201-159-0	606-002-00-3	01-2119457290-43	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
141-78-6	ethyl acetate			20 - 40 %
	205-500-4	607-022-00-5	01-2119475103-46	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
123-86-4	n-butyl acetate			5 - < 10 %
	204-658-1	607-025-00-1	01-2119485493-29	
	Flam. Liq. 3, STOT SE 3; H226 H336 EUH066			
4151-51-3	Tris(p-isocyanatophenyl) thiophosphate			1 - < 5 %
	223-981-9			
	Acute Tox. 4; H302			
79-10-7	acrylic acid, prop-2-enoic acid			0,1 - < 1 %
	201-177-9	607-061-00-8	01-2119452449-31	
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1A, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 2; H226 H332 H312 H302 H314 H335 H400 H411			
9017-01-0	Benzene, 1,3-diisocyanatomethyl-, homopolymer			0,1 - < 1 %
			01-2119950331-47	
	Skin Sens. 1; H317			
26006-20-2	2,4-toluene diisocyanate, homopolymer			0,1 - < 1 %
	Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1; H332 H319 H317			
4083-64-1	4-isocyanatosulphonyltoluene, tosyl isocyanate			0,1 - < 1 %
	223-810-8	615-012-00-7	01-2119980050-47	
	Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, STOT SE 3; H315 H319 H334 H335 EUH014			

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

After inhalation

Remove casualty to fresh air and keep warm and at rest.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

After contact with eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a physician in any case!

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

eyes: Causes eye irritation. Chemosis.

The mixture may be a skin sensitiser. It may also be a skin irritant and repeated contact may increase this effect. Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

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**

Carbon dioxide (CO₂), Foam, Extinguishing powder

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Gases/vapours, toxic

5.3. Advice for firefighters

Use personal protection equipment.

In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Special danger of slipping by leaking/spilling product.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

See section 8.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Use explosion-proof electrical equipment.

Use only antistatically equipped (spark-free) tools.

Provide earthing of containers, equipment, pumps and ventilation facilities.

Take precautionary measures against static discharges.

Further information on handling

Wash hands before breaks and after work.

When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Provide adequate ventilation.

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storage temperature: 5 - 25°C
Keep in a cool, well-ventilated place.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
79-10-7	Acrylic acid	10	29		TWA (8 h)	WEL
		20	59		STEL (1 min)	WEL
78-93-3	Butan-2-one (methyl ethyl ketone)	200	600		TWA (8 h)	WEL
		300	899		STEL (15 min)	WEL
123-86-4	Butyl acetate	150	724		TWA (8 h)	WEL
		200	966		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	734		TWA (8 h)	WEL
		400	1468		STEL (15 min)	WEL
-	Isocyanates, all (as -NCO) Except methyl isocyanate	-	0.02		TWA (8 h)	WEL
		-	0.07		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
78-93-3	Butan-2-one	butan-2-one	70 µmol/L	urine	Post shift

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
78-93-3	butanone			
Worker DNEL, long-term		dermal	systemic	1161 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	600 mg/m ³
Consumer DNEL, long-term		dermal	systemic	412 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	106 mg/m ³
Consumer DNEL, long-term		oral	systemic	31 mg/kg bw/day
141-78-6	ethyl acetate			
Worker DNEL, acute		inhalation	systemic	1468 mg/m ³
Worker DNEL, acute		inhalation	local	1468 mg/m ³
Worker DNEL, long-term		dermal	systemic	63 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	734 mg/m ³
Worker DNEL, long-term		inhalation	local	734 mg/m ³
Consumer DNEL, acute		oral	systemic	734 mg/kg bw/day
Consumer DNEL, acute		inhalation	local	734 mg/m ³
Consumer DNEL, long-term		dermal	systemic	37 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	367 mg/m ³
Consumer DNEL, long-term		oral	systemic	4,5 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	367 mg/m ³
123-86-4	n-butyl acetate			
Worker DNEL, long-term		inhalation	systemic	300 mg/m ³
Worker DNEL, acute		inhalation	systemic	600 mg/m ³
Worker DNEL, long-term		inhalation	local	300 mg/m ³
Worker DNEL, acute		inhalation	local	600 mg/m ³
Worker DNEL, long-term		dermal	systemic	11 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	11 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	35,7 mg/m ³
Consumer DNEL, acute		inhalation	systemic	300 mg/m ³
Consumer DNEL, acute		inhalation	local	300 mg/m ³
Consumer DNEL, long-term		dermal	systemic	6 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	6 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	2 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	2 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	35,7 mg/m ³
4151-51-3	Tris(p-isocyanatophenyl) thiophosphate			
Worker DNEL, long-term		inhalation	local	0,047 mg/m ³
79-10-7	acrylic acid, prop-2-enoic acid			
Worker DNEL, long-term		inhalation	local	30 mg/m ³
Worker DNEL, acute		inhalation	local	30 mg/m ³
Worker DNEL, acute		dermal	local	1 mg/cm ²

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Consumer DNEL, acute	dermal	local	1 mg/cm ²
Consumer DNEL, acute	inhalation	local	3,6 mg/m ³
Consumer DNEL, long-term	inhalation	local	3,6 mg/m ³
9017-01-0	Benzene, 1,3-diisocyanatomethyl-, homopolymer		
Worker DNEL, long-term	inhalation	local	0,345 mg/m ³
4083-64-1	4-isocyanatosulphonyltoluene, tosyl isocyanate		
Worker DNEL, long-term	inhalation	systemic	3,24 mg/m ³
Worker DNEL, long-term	dermal	systemic	0,92 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,8 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,46 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,46 mg/kg bw/day

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PNEC values

CAS No	Substance	Value
Environmental compartment		
78-93-3	butanone	
Freshwater		55,8 mg/l
Marine water		55,8 mg/l
Freshwater sediment		284,74 mg/kg
Marine sediment		284,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		709 mg/l
Soil		22,5 mg/kg
Air		1000 mg/kg
141-78-6	ethyl acetate	
Freshwater		0,24 mg/l
Freshwater (intermittent releases)		1,65 mg/l
Marine water		0,024 mg/l
Freshwater sediment		1,15 mg/kg
Marine sediment		0,115 mg/kg
Micro-organisms in sewage treatment plants (STP)		650 mg/l
Soil		0,148 mg/kg
Air		200 mg/kg
123-86-4	n-butyl acetate	
Freshwater		0,18 mg/l
Marine water		0,018 mg/l
Freshwater sediment		0,981 mg/kg
Marine sediment		0,0981 mg/kg
Micro-organisms in sewage treatment plants (STP)		35,6 mg/l
Soil		0,0903 mg/kg
4151-51-3	Tris(p-isocyanatophenyl) thiophosphate	
Freshwater		0,1 mg/l
Freshwater (intermittent releases)		1 mg/l
Marine water		0,01 mg/l
Freshwater sediment		2557 mg/kg
Marine sediment		155 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		510 mg/kg
79-10-7	acrylic acid, prop-2-enoic acid	
Freshwater		0,003 mg/l
Marine water		0,0003 mg/l
Freshwater sediment		0,0236 mg/kg
Marine sediment		0,00236 mg/kg
Secondary poisoning		30 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,9 mg/l

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Soil		1 mg/kg
9017-01-0	Benzene, 1,3-diisocyanatomethyl-, homopolymer	
Freshwater		0,1 mg/l
Freshwater (intermittent releases)		0,1 mg/l
Marine water		0,01 mg/l
Freshwater sediment		3302 mg/kg
Marine sediment		330 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,1 mg/l
Soil		658 mg/kg
4083-64-1	4-isocyanatosulphonyltoluene, tosyl isocyanate	
Freshwater		0,03 mg/l
Marine water		0,003 mg/l
Freshwater sediment		0,172 mg/kg
Marine sediment		0,017 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,4 mg/l
Soil		0,017 mg/kg

8.2. Exposure controls**Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations. Use only outdoors or in a well-ventilated area.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Eye/face protection

Suitable eye protection: goggles. (EN 166).

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Breakthrough times and swelling properties of the material must be taken into consideration.

Wear suitable gloves. (EN 374).

Recommended material: Butyl caoutchouc (butyl rubber)

Thickness of the glove material: $\geq 0,7$ mm

Breakthrough time (maximum wearing time): INDEX No. 2, > 30 Min. / INDEX No. 6, > 480 Min.

Replace when worn.

Skin protection

Use personal protection equipment.

Wear anti-static footwear and clothing

When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. (89/686/EWG).

Recommended protective clothing articles: compliant EN 14605 / EN 13982.

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Respiratory protection

In case of dangerous gases, vapours or dusts self-contained breathing apparatus or suitable masks and filters need to be advised. In case of inadequate ventilation wear respiratory protection.

Suitable respiratory protection apparatus: particle filter ABEK-P2 (EN 14387).

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	black
Odour:	like: Solvent

Test method

pH-Value:	No data available
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Changes in the physical state

Melting point/freezing point:	No data available
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Boiling point or initial boiling point and boiling range:	77 °C
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Flash point:	-7 °C ASTM D 3278
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Flammability

Solid:	No data available
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Gas:	No data available
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Explosive properties

No data available

Lower explosion limits:	No data available
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Upper explosion limits:	No data available
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Self-ignition temperature

Solid:	No data available
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Gas:	No data available
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Decomposition temperature:	No data available
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Oxidizing properties

No data available

Vapour pressure: (at 55 °C)	470 hPa
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Density (at 20 °C):	0,98 g/cm ³
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Bulk density:	No data available
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Water solubility: (at 20 °C)	partially miscible
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Solubility in other solvents

No data available

Partition coefficient n-octanol/water:	No data available
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Viscosity / dynamic: (at 23 °C)	5 - 14 mPa·s Physica Rheolab
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Viscosity / kinematic:	No data available
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Relative vapour density:	No data available
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Evaporation rate:	No data available
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9.2. Other information

No data available

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SECTION 10: Stability and reactivity**10.1. Reactivity**

Reacts with : Water (Danger of bursting container. Formation of: Carbon dioxide (CO₂.) Alcohols, Amines, Oxidising agent

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

See 10.1 Reactivity

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from moisture.

10.5. Incompatible materials

See 10.1 Reactivity

10.6. Hazardous decomposition products

In case of warming: Formation of: Isocyanate

Reacts with : Humidity (Danger of bursting container. Formation of: Carbon dioxide (CO₂.)

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]. The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see section 3).

Persons already sensitised to diisocyanates may develop allergic reactions when using this product.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
78-93-3	butanone				
	oral	LD50 mg/kg	2.737	Rat	
	dermal	LD50 mg/kg	> 6.400	Rabbit	
	inhalation (4 h) vapour	LC50	> 20 mg/l	Rat	
141-78-6	ethyl acetate				
	oral	LD50 mg/kg	6.100	Rat	
	dermal	LD50 mg/kg	>20.000	Rabbit	Draize Test
	inhalation (1 h) vapour	LC50	200 mg/l	Rat	
123-86-4	n-butyl acetate				
	oral	LD50 mg/kg	10.760	Rat	OECD 423
	dermal	LD50 mg/kg	>14.112	Rabbit	OECD 402
	inhalation (4 h) dust/mist	LC50 mg/l	>23,4	Rat	OECD 403
4151-51-3	Tris(p-isocyanatophenyl) thiophosphate				
	oral	ATE mg/kg	500		
	inhalation (4 h) dust/mist	LC50 mg/l	> 5,721	Rat	OECD 403
79-10-7	acrylic acid, prop-2-enoic acid				
	oral	LD50 mg/kg	1.500	Rat	OECD 401
	dermal	LD50 mg/kg	>2.000	Rabbit	OECD 402
	inhalation (4 h) vapour	LC50	5,1 mg/l	Rat	OECD 403
	inhalation dust/mist	ATE	1,5 mg/l		
9017-01-0	Benzene, 1,3-diisocyanatomethyl-, homopolymer				
	oral	LD50 mg/kg	> 2.000	Rat	OECD 423
26006-20-2	2,4-toluene diisocyanate, homopolymer				
	oral	LD50 mg/kg	>5000	Rat	
	inhalation vapour	ATE	11 mg/l		
	inhalation dust/mist	ATE	1,5 mg/l		
4083-64-1	4-isocyanatosulphonyltoluene, tosyl isocyanate				
	oral	LD50 mg/kg	2.330	Rat	similar to OECD 401
	dermal	LD50 mg/kg	> 2.000	Rat	OECD 402
	inhalation (4 h) dust/mist	LC50 mg/l	3.665	Rat	

Irritation and corrosivity

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Repeated exposure may cause skin dryness or cracking.
Causes serious eye irritation.

Sensitising effects

Contains isocyanates. May produce an allergic reaction.
Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
Repeated exposure may cause skin dryness or cracking.

Carcinogenic/mutagenic/toxic effects for reproduction

negative.

STOT-single exposure

May cause drowsiness or dizziness.

STOT-repeated exposure

The mixture may be a skin sensitiser. It may also be a skin irritant and repeated contact may increase this effect.

Aspiration hazard

There are no data available on the mixture itself.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information**12.1. Toxicity**

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP] The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see section 3).

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

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
78-93-3	butanone					
	Acute fish toxicity	LC50 mg/l	3.220	96 h	Pimephales promelas (fathead minnow)	OECD 203
	Acute algae toxicity	ErC50 mg/l	> 1.000			OECD 201
	Acute crustacea toxicity	EC50 mg/l	5.091	48 h	Daphnia magna (Big water flea)	Daphnia pulex (water flea) OECD 202
	Acute bacteria toxicity	(EC50 mg/l)	1.150	0 h		OECD 209
141-78-6	ethyl acetate					
	Acute fish toxicity	LC50	270 mg/l	96 h	Leuciscus idus (golden orfe)	DIN 38412 / part 15
	Acute algae toxicity	ErC50 mg/l	>2.000	96 h	Selenastrum capricornutum	OECD 201
	Acute crustacea toxicity	EC50	164 mg/l	48 h	Daphnia pulex (water flea)	OECD 202
	Algae toxicity	NOEC mg/l	2.000	4 d	Selenastrum capricornutum	OECD 201
	Crustacea toxicity	NOEC	2,4 mg/l	21 d	Daphnia magna (Big water flea)	OECD 211
123-86-4	n-butyl acetate					
	Acute fish toxicity	LC50	18 mg/l	96 h	Pimephales promelas (fathead minnow)	OECD 203
	Acute algae toxicity	ErC50 mg/l	674,7	72 h	Scenedesmus subspicatus	OECD 201
	Acute crustacea toxicity	EC50	44 mg/l	48 h	Ceriodaphnia spec	OECD 202
	Crustacea toxicity	NOEC mg/l	23,2	21 d	Daphnia magna (Big water flea)	OECD 211
	Acute bacteria toxicity	(EC50 mg/l)	356		Tetrahydrofurane	
4151-51-3	Tris(p-isocyanatophenyl) thiophosphate					
	Acute fish toxicity	LC50 Toxicity> Water solubility mg/l		96 h	Brachydanio rerio (zebra-fish)	OECD 203
	Acute algae toxicity	ErC50 Toxicity> Water solubility mg/l			Scenedesmus subspicatus	OECD 201
	Algae toxicity	NOEC Toxicity> Water solubility mg/l			Scenedesmus subspicatus	OECD 201
79-10-7	acrylic acid, prop-2-enoic acid					
	Acute fish toxicity	LC50	27 mg/l	96 h	Onchorhynchus mykiss	OECD 210
	Acute algae toxicity	ErC50 mg/l	0,13	72 h	Scenedesmus subspicatus	OECD 201
	Acute crustacea toxicity	EC50	95 mg/l	48 h	Daphnia magna	OECD 201
	Fish toxicity	NOEC mg/l	>= 10,1	45 d	Orzyias latipes	
	Crustacea toxicity	NOEC	19 mg/l	21 d	Daphnia magna (Big water flea)	

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9017-01-0	Benzene, 1,3-diisocyanatomethyl-, homopolymer					
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Brachydanio rerio (zebra-fish)	OECD 203
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	OECD 201
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna (Big water flea)	OECD 202
	Fish toxicity	NOEC	100 mg/l	3 d	Desmodesmus subspicatus	OECD 201
	Algae toxicity	NOEC	100 mg/l	72 d	Desmodesmus subspicatus	OECD 201
	Acute bacteria toxicity	(EC50 mg/l)	> 1.000	3 h	Activated sludge	OECD 209
26006-20-2	2,4-toluene diisocyanate, homopolymer					
	Acute fish toxicity	LC50 Water solubility mg/l	Toxicity>	96 h	Brachydanio rerio (zebra-fish)	OECD 203
	Acute algae toxicity	ErC50 Water solubility mg/l	Toxicity>	72 h	Scenedesmus subspicatus	OECD 201
	Acute crustacea toxicity	EC50 Water solubility mg/l	Toxicity>	48 h	Daphnia magna (Big water flea)	OECD 202
	Acute bacteria toxicity	(EC50 Water solubility mg/l)	Toxicity>	3 h	activated sludge	OECD 209
4083-64-1	4-isocyanatosulphonyltoluene, tosyl isocyanate					
	Acute fish toxicity	LC50 mg/l	> 45	96 h	Oncorhynchus mykiss (Rainbow trout)	OECD 203
	Acute algae toxicity	ErC50	30 mg/l	72 h	Pseudokirchneriella subcapitata	OECD 201
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna (Big water flea)	OECD 209
	Acute bacteria toxicity	(EC50 mg/l)	2.511		activated sludge	OECD 209

12.2. Persistence and degradability

There are no data available on the mixture itself.

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CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
78-93-3	butanone	OECD 301D	98 %	28	
	Readily biodegradable (according to OECD criteria).				
141-78-6	ethyl acetate	OECD 301D	100 %	28	
	Readily biodegradable (according to OECD criteria).				
123-86-4	n-butyl acetate	OECD 301D/ EEC 92/69/V, C.4-E	83 %	28	
	Readily biodegradable (according to OECD criteria).				
4151-51-3	Tris(p-isocyanatophenyl) thiophosphate	OECD 301F	58,2 %	28	
79-10-7	acrylic acid, prop-2-enoic acid	OECD 301D/ EEC 92/69/V, C.4-E	81 %	28	
	Readily biodegradable (according to OECD criteria).				
		OECD 302B	100 %	28	
	Evidence for inherent biodegradability.				
9017-01-0	Benzene, 1,3-diisocyanatomethyl-, homopolymer	OECD 301F	4 %	28	
	Not readily biodegradable (according to OECD criteria)				
		OECD 302 C	8 %	28	
	negative.				
26006-20-2	2,4-toluene diisocyanate, homopolymer	OECD 301A - OECD 301F	>0 - 60 %	28	
	Not readily biodegradable (according to OECD criteria)				
4083-64-1	4-isocyanatosulphonyltoluene, tosyl isocyanate	OECD 301D Aerobic biological treatment	98 %	28	
	Readily biodegradable (according to OECD criteria).				

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
78-93-3	butanone	0,29
141-78-6	ethyl acetate	0,6
123-86-4	n-butyl acetate	2,3
4151-51-3	Tris(p-isocyanatophenyl) thiophosphate	8,27
79-10-7	acrylic acid, prop-2-enoic acid	0,46
4083-64-1	4-isocyanatosulphonyltoluene, tosyl isocyanate	0,6

BCF

CAS No	Chemical name	BCF	Species	Source
141-78-6	ethyl acetate	30	Leuciscus idus (golden orfe)	
79-10-7	acrylic acid, prop-2-enoic acid	3,16		Quantitative structure-activity relationship (QSAR)
9017-01-0	Benzene, 1,3-diisocyanatomethyl-, homopolymer	< 1	Carassius auratus (goldfish)	56 d

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12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains.

Consult the appropriate authorities about waste disposal. Dispose of waste according to applicable legislation.

The waste key according to the European Waste Catalogue (EWC number) refers to the real wastes origin and therefore is not product- but use-oriented.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Recommendation: 08 04 09 Adhesives, sealants

List of Wastes Code - residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

Contaminated packaging

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number:	UN 1139
14.2. UN proper shipping name:	Coating solution
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3



Classification code:	F1
Special Provisions:	640D
Limited quantity:	5 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number:	UN 1139
14.2. UN proper shipping name:	Coating solution

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14.3. Transport hazard class(es): 3**14.4. Packing group:** II

Hazard label: 3



Classification code: F1

Special Provisions: 640D

Limited quantity: 5 L

Excepted quantity: E2

Marine transport (IMDG)**14.1. UN number:** UN 1139**14.2. UN proper shipping name:** Coating solution**14.3. Transport hazard class(es):** 3**14.4. Packing group:** II

Hazard label: 3



Special Provisions: -

Limited quantity: 5 L

Excepted quantity: E2

EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)**14.1. UN number:** UN 1139**14.2. UN proper shipping name:** Coating solution**14.3. Transport hazard class(es):** 3**14.4. Packing group:** II

Hazard label: 3



Special Provisions: A3

Limited quantity Passenger: 1 L

Passenger LQ: Y341

Excepted quantity: E2

IATA-packing instructions - Passenger: 353

IATA-max. quantity - Passenger: 5 L

IATA-packing instructions - Cargo: 364

IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

See SECTION 14: Transport information

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

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SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

2010/75/EU (VOC): 66,5 %

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

Additional information

Berufsgenossenschaftliche Informationen (BGI): BGI 524 (M 044) Isocyanate

Berufsgenossenschaftliche Informationen (BGI): BGI 621 Solvent

15.2. Chemical safety assessment

For this mixture a chemical safety assessment has been carried out.

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s):

1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

Abbreviations and acronyms

ADN: Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways).

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).

ATE: Acute Toxicity Estimate.

AwSV: Anlagenverordnung wassergefährdender Stoffe (Regulation on facilities handling substances dangerous to water).

BGI: Berufsgenossenschaftliche Informationen (trade association information).

BGR: Berufsgenossenschaftliche Regeln (trade association regulation).

CAS: Chemical Abstracts Service.

CEN: Comité Européen de Normalisation European (Committee for Standardization).

CLP: Classification, Labelling and Packaging of substances and mixtures (REGULATION (EC) No 1272/2008).

DIN: Deutsches Institut für Normung (German institute for standardization).

DMEL: Derived Minimum Effect Level.

DNEL: Derived No Effect Level.

EC: European Community.

EC50: Half maximal effective concentration.

ECHA: European Chemicals Agency.

EG: Europäische Gemeinschaft (European Community).

EINECS: European Inventory of Existing Commercial Chemical Substances.

ELINCS: European List of Notified Chemical Substances.

EN: European Norms.

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

IATA-DGR: International Air Transport Association - Dangerous Goods Regulations.

IBC: Intermediate Bulk Container.

IC50 / ErC50: Inhibitory concentration, 50 %.

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ICAO-TI: International Civil Aviation Organization - Technical Instructions for the Safe Transport of Dangerous Goods by Air.

IMDG: International Maritime Code for Dangerous Goods.

ISO: International Organization for Standardization.

IUPAC: International Union for Pure and Applied Chemistry.

LC50: Lethal concentration, 50 %.

LD50: Lethal dose, 50 %.

log Kow (Pow): Partition coefficient n-octanol/water.

LQ: Limited Quantities.

MARPOL: International Convention for the Prevention of Marine Pollution from Ships.

OECD: Organisation for Economic Co-operation and Development.

PBT: persistent, bioaccumulative and toxic.

PNEC: Predicted No Effect Concentration.

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006).

RID: Règlement concernant le transport International ferroviaire de marchandises Dangereuses (Regulation concerning the International Carriage of Dangerous Goods by Rail).

SVHC: Substances of Very High Concern.

STOT - RE: Specific Target Organ Toxicity - Repeated Exposure.

STOT - SE: Specific Target Organ Toxicity - Single Exposure.

TRGS: Technische Regel für Gefahrstoffe (technical guideline for the handling of hazardous materials).

UN: Untitled Nations.

VOC: Volatile organic compounds.

vPvB: very persistent and very bioaccumulative.

WGK: Wassergefährdungsklasse (water hazard class).

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
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.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
EUH014	Reacts violently with water.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH204	Contains isocyanates. May produce an allergic reaction.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)