

PT 77 PrimeEX

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

PT 77 PrimeEX

Further trade names

PT 77 PrimeEX Cleaner
PT 77 PrimeEX Reiniger
PT 77 PrimeEX Nettoyant
PT 77 PrimeEX Limpiador

UFI: 098K-0WQK-2Q2S-KAGK

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

Cleaner - for professional use only.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: PMA/TOOLS GmbH
Street: Siemensring 42
Place: D-47877 Willich - Germany
Telephone: +49 2154 922230
E-mail: info@pma-tools.de
Contact person: Labor
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**

Aerosol 1; H222-H229
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

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

ethyl acetate
n-butyl acetate
citral

Signal word: Danger

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Pictograms:



Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe Aerosol.
P271	Use only outdoors or in a well-ventilated area.
P410	Protect from sunlight.
P412	Do not expose to temperatures exceeding 50 °C/122 °F.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P314	Get medical advice/attention if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Special labelling of certain mixtures

EUH066	Repeated exposure may cause skin dryness or cracking.
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Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:



Hazard statements

H222-H229-H317

Precautionary statements

P210-P211-P251-P410-P412

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII. Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

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

Aerosol-Active agent-Mixture of the following substances with non-hazardous additions.

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
106-97-8	butane			30 - < 35 %
	203-448-7	601-004-00-0	01-2119474691-32	
	Flam. Gas 1; H220			
74-98-6	propane			15 - < 20 %
	200-827-9	601-003-00-5	01-2119474691-32	
	Flam. Gas 1, Compressed gas; H220 H280			
112-34-5	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether			5 - < 10 %
	203-961-6	603-096-00-8		
	Eye Irrit. 2; H319			
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			
141-78-6	ethyl acetate			5 - < 10 %
	205-500-4	607-022-00-5	01-2119475103-46	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
64-17-5	ethanol; ethyl alcohol			5 - < 10 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
75-28-5	isobutane			1 - < 5 %
	200-857-2	601-004-00-0	01-2119485395-27	
	Flam. Gas 1, Compressed gas; H220 H280			
5392-40-5	citral			1 - < 5 %
	226-394-6	605-019-00-3		
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
74-98-6	200-827-9	propane	15 - < 20 %
		inhalation: LC50 = > 800000 ppm (gases)	
112-34-5	203-961-6	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	5 - < 10 %
		dermal: LD50 = 2700 mg/kg; oral: LD50 = 5660 mg/kg	
123-86-4	204-658-1	n-butyl acetate	5 - < 10 %
		inhalation: LC50 = >20 mg/l (vapours); inhalation: LC50 = >23,4 mg/l (dusts or mists); dermal: LD50 = >14.112 mg/kg; oral: LD50 = 10.760 mg/kg	
141-78-6	205-500-4	ethyl acetate	5 - < 10 %
		inhalation: LC50 = 200 mg/l (vapours); dermal: LD50 = >20.000 mg/kg; oral: LD50 = 6.100 mg/kg	
64-17-5	200-578-6	ethanol; ethyl alcohol	5 - < 10 %
		inhalation: LC50 = 95,6 mg/l (vapours); oral: LD50 = 6200 mg/kg	
5392-40-5	226-394-6	citral	1 - < 5 %
		dermal: LD50 = 2250 mg/kg; oral: LD50 = 4960 mg/kg	

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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. Never give anything by mouth to an unconscious person or a person with cramps.

After inhalation

Provide fresh air. If unconscious but breathing normally, place in recovery position and seek medical advice. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

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

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a physician immediately.

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

Aerosol/Vapours may cause drowsiness and dizziness. Headache, Dizziness, Vomiting, Dyspnoea.
eyes: Conjunctival oedema (chemosis).
Repeated exposure may cause skin dryness or cracking.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Extremely flammable aerosol. Vapours can form explosive mixtures with air. Heating causes rise in pressure with risk of bursting.
In case of fire may be liberated: Carbon dioxide (CO₂); Carbon monoxide (CO), Gases/vapours, toxic.

5.3. Advice for firefighters

Use personal protection equipment. Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

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

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General advice

Remove all sources of ignition. Remove persons to safety. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Special danger of slipping by leaking/spilling product.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Stop leak if safe to do so. Collect spillage. Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Danger of explosion.

6.3. Methods and material for containment and cleaning up**Other information**

Take up mechanically, placing in appropriate containers for disposal. (Metal container). Use only antistatically equipped (spark-free) tools.

Suitable material for taking up: Sand, Kieselguhr, Universal binder.

Unsuitable material for taking up: Sawdust (Combustible substance)!

Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

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

Provide adequate ventilation. If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Avoid contact with eyes and skin. Do not eat, drink or smoke when using this product.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Vapours can form explosive mixtures with air.

Take precautionary measures against static discharges.

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

Use only antistatically equipped (spark-free) tools.

Advice on general occupational hygiene

Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse. Draw up and observe skin protection programme.

When using do not eat or drink. Wash hands and face before breaks and after work and take a shower if necessary. Keep away from food, drink and animal feedingstuffs.

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

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Food and feedingstuffs, Oxidising agent, Pyrophoric or self-heating substances.

Further information on storage conditions

Recommended storage temperature: 15 - 25°C

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

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8.1. Control parameters**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
112-34-5	2-(2-Butoxyethoxy)ethanol	10	67.5		TWA (8 h)	WEL
		15	101.2		STEL (15 min)	WEL
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL
123-86-4	Butyl acetate	150	724		TWA (8 h)	WEL
		200	966		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
141-78-6	Ethyl acetate	200	734		TWA (8 h)	WEL
		400	1468		STEL (15 min)	WEL

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DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
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
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
64-17-5	ethanol; ethyl alcohol			
Consumer DNEL, acute		inhalation	local	950 mg/m ³
Consumer DNEL, acute		dermal	local	950 ppm
Consumer DNEL, long-term		inhalation	systemic	114 mg/m ³
Consumer DNEL, long-term		oral	systemic	87 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
Worker DNEL, acute		inhalation	local	1900 mg/m ³
Worker DNEL, long-term		inhalation	systemic	950 mg/m ³
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day

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PNEC values

CAS No	Substance	Value
Environmental compartment		
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
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
64-17-5	ethanol; ethyl alcohol	
Freshwater		0,96 mg/l
Freshwater (intermittent releases)		2,75 mg/l
Marine water		0,79 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		0,72 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg

8.2. Exposure controls**Appropriate engineering controls**

Use only outdoors or in a well-ventilated area. If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment**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

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consideration.

Wear suitable gloves. (EN 374).

Recommended material: Butyl caoutchouc (butyl rubber)

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

Respiratory protection

In case of inadequate ventilation wear respiratory protection. (occupational exposure limit value / exceeding exposure limit values). Combination filtering device Filter type A, (brown). Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

Environmental exposure controls

Do not allow to enter into surface water or drains.

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

Physical state:	Aerosol
Colour:	light yellow
Odour:	characteristic

Test method**Changes in the physical state**

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	> -40 °C
Flash point:	< -60 °C

Flammability

Solid/liquid: Extremely flammable aerosol.

Explosive properties

Vapours can form explosive mixtures with air.

Lower explosion limits:	1,4 vol. %
Upper explosion limits:	10,8 vol. %
Auto-ignition temperature:	365 - 470 °C
Decomposition temperature:	not determined
pH-Value (at 20 °C):	6
Viscosity / dynamic:	No data available
Viscosity / kinematic:	No data available
Water solubility:	partially miscible

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	not determined

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Density: 0,68 g/cm³ (calc.)
Relative vapour density: not determined

9.2. Other information**Information with regard to physical hazard classes**

Oxidizing properties
No data available

Other safety characteristics

Solid content: No data available
Evaporation rate: No data available

Further Information

No information available.

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

Extremely flammable aerosol. Pressurized container: May burst if heated. Vapours can form explosive mixtures with air.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Reacts with : Oxidising agent, strong; Strong acid; Strong alkali

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

See SECTION 10: Stability and reactivity

10.6. Hazardous decomposition products

After intended use: No known hazardous decomposition products.
Decomposition products in case of fire: see section 5.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
74-98-6	propane				
	inhalation gas	LC50 > 800000 ppm	Rat	ECHA	[15 min]
112-34-5	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether				
	oral	LD50 5660 mg/kg	Rat		
	dermal	LD50 2700 mg/kg	Rabbit		
123-86-4	n-butyl acetate				
	oral	LD50 10.760 mg/kg	Rat		OECD 423
	dermal	LD50 >14.112 mg/kg	Rabbit		OECD 402
	inhalation (4 h) vapour	LC50 >20 mg/l	Rat		
	inhalation (4 h) dust/mist	LC50 >23,4 mg/l	Rat		OECD 403
141-78-6	ethyl acetate				
	oral	LD50 6.100 mg/kg	Rat		
	dermal	LD50 >20.000 mg/kg	Rabbit		Draize Test
	inhalation (1 h) vapour	LC50 200 mg/l	Rat		
64-17-5	ethanol; ethyl alcohol				
	oral	LD50 6200 mg/kg	Rat	IUCLID	
	inhalation (4 h) vapour	LC50 95,6 mg/l	Rat	RTECS	
5392-40-5	citral				
	oral	LD50 4960 mg/kg	Rat		
	dermal	LD50 2250 mg/kg	Rabbit		

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Repeated exposure may cause skin dryness or cracking.

Sensitising effects

May cause an allergic skin reaction. (citral)

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

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11.2. Information on other hazards**Endocrine disrupting properties**

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

Other information

No information available.

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

There are no data available on the mixture itself. The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see section 3).

Based on available data, the classification criteria are not met.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
106-97-8	butane					
	Acute fish toxicity	LC50 mg/l	24,1	96 h	Fish	ECHA
	Acute algae toxicity	ErC50	7,7 mg/l	96 h	Green algae	ECHA
	Acute crustacea toxicity	EC50 mg/l	14,2	48 h	Daphnia magna (Big water flea)	ECHA
74-98-6	propane					
	Acute fish toxicity	LC50 mg/l	49,9	96 h	Fish	ECHA ECOSAR v1.00
	Acute algae toxicity	ErC50 mg/l	19,4	96 h	Algea	ECHA ECOSAR v1.00
	Acute crustacea toxicity	EC50 mg/l	69,4	48 h	Daphnia magna (Big water flea)	ECHA ECOSAR v1.00
112-34-5	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether					
	Acute fish toxicity	LC50 mg/l	1650	96 h	Fish	
	Acute algae toxicity	ErC50 mg/l	> 100		Scenedesmus sp.	
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	
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 ()	356 mg/l		Tetrahymena pyriformis	40 h
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
64-17-5	ethanol; ethyl alcohol					
	Acute crustacea toxicity	EC50	9268 - 14221 mg/l	48 h	Daphnia magna	IUCLID
5392-40-5	citral					
	Acute fish toxicity	LC50 mg/l	6,78	96 h	Leuciscus idus (golden orfe)	DIN 38412
	Acute algae toxicity	ErC50 mg/l	103,8	72 h	Desmodesmus subspicatus	

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	Acute crustacea toxicity	EC50	6,8 mg/l	48 h	Daphnia magna (Big water flea)		
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12.2. Persistence and degradability

There are no data available on the mixture itself.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
106-97-8	butane			
	Gas exchange-biodegradation experiment	> 70%	10	ECHA
	Readily biodegradable (according to OECD criteria).			
74-98-6	propane			
	EPI Suite v4, BioHCwin v1.01	50 %	3	ECHA
	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).			
141-78-6	ethyl acetate			
	OECD 301D	100 %	28	
	Readily biodegradable (according to OECD criteria).			
64-17-5	ethanol; ethyl alcohol			
	OECD 301B	97 %		
5392-40-5	citral			
	Aerobic biological treatment	85 - 95%	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
106-97-8	butane	2,8
74-98-6	propane	1,09
112-34-5	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	0,56 (25°C)
123-86-4	n-butyl acetate	2,3
141-78-6	ethyl acetate	0,68
64-17-5	ethanol; ethyl alcohol	-0,31
75-28-5	isobutane	2,8
5392-40-5	citral	2,9

BCF

CAS No	Chemical name	BCF	Species	Source
141-78-6	ethyl acetate	30	Leuciscus idus (golden orfe)	
64-17-5	ethanol; ethyl alcohol	0,66 -3,2		

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

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12.7. Other adverse effects

No information available.

Further information

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

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

Do not allow to enter into surface water or drains. 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: EAK 160504

List of Wastes Code - residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing 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 or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS (Petroleum gases, liquefied; Petroleum gas)
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Excepted quantity: E0
 Transport category: 2
 Tunnel restriction code: D

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS (Petroleum gases, liquefied; Petroleum gas)
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Excepted quantity: E0

Marine transport (IMDG)

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14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS (Petroleum gases, liquefied; Petroleum gas)
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Special Provisions: 63, 190, 277, 327, 344, 381,959
 Limited quantity: 1000 mL
 Excepted quantity: E0
 EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Special Provisions: A145 A167 A802
 Limited quantity Passenger: 30 kg G
 Passenger LQ: Y203
 Excepted quantity: E0
 IATA-packing instructions - Passenger: 203
 IATA-max. quantity - Passenger: 75 kg
 IATA-packing instructions - Cargo: 203
 IATA-max. quantity - Cargo: 150 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Reference to other sections: 6,7,8

14.7. Maritime transport in bulk according to IMO instruments

not applicable

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

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 28, Entry 40, Entry 55, Entry 75

Directive 2010/75/EU on industrial emissions: 88 % (0,593 g/l)

Information according to Directive 2012/18/EU (SEVESO III): P3a FLAMMABLE AEROSOLS

Additional information

Aerosol Directive (75/324/)

National regulatory information

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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):	1 - slightly hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not 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 %.

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.

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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).

UFI: Unique Formula Identifier.

UN: Untitled Nations.

VOC: Volatile organic compounds.

vPvB: very persistent and very bioaccumulative.

WGK: Wassergefährdungsklasse (water hazard class).

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Aerosol 1; H222-H229	
Skin Irrit. 2; H315	
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H336	

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

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.

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