SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830

PUP-002

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

1.1. Product identifier

Product name : PUP-002
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Primer

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Novatio*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
🖷 +32 14 22 02 66
info@novatio.be
*NOVATIO is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
🖷 +32 14 85 97 38
info@tec7.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Aerosol	category 1	H222: Extremely flammable aerosol.
Aerosol	category 1	H229: Pressurised container: May burst if heated.
Asp. Tox.	category 1	H304: May be fatal if swallowed and enters airways.
STOT RE	category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Skin Irrit.	category 2	H315: Causes skin irritation.
Eye Irrit.	category 2	H319: Causes serious eye irritation.
STOT SE	category 3	H335: May cause respiratory irritation.
Aquatic Chronic	category 3	H412: Harmful to aquatic life with long lasting effects.

2.2. Label elements

Contains: xylene.

Signal word Danger

H-statements

H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H373 May cause damage to organs through prolonged or repeated exposure.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

P-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.
P280	Wear protective gloves, protective clothing and eye protection/face protection.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122°F.

2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
dimethyl ether 01-2119472128-37	115-10-6 204-065-8	25%<C<50%	Flam. Gas 1; H220 Press. Gas - Liquefied gas;	(1)(2)(10)	Propellant
ethyl acetate 01-2119475103-46	141-78-6 205-500-4	10%<C<25%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent
xylene 01-2119488216-32	1330-20-7 215-535-7	10%≤C≤25%	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Asp. Tox. 1; H304 STOT RE 2; H373 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 Aquatic Chronic 3; H412	(1)(2)(6)(10)	Constituent
solvent naphtha (petroleum), light arom.	64742-95-6 265-199-0	2.5%<C<10%	Flam. Liq. 3; H226 Asp. Tox. 1; H304	(1)(10)	Constituent
4-hydroxy-4-methylpentan-2-one 01-2119473975-21	123-42-2 204-626-7	2.5%<C<10%	Flam. Liq. 3; H226 Eye Irrit. 2; H319 STOT SE 3; H335	(1)(2)(8)(10)	Constituent
ethylbenzene 01-2119489370-35	100-41-4 202-849-4	2.5%<C<10%	Flam. Liq. 2; H225 Acute Tox. 4; H332 Asp. Tox. 1; H304 STOT RE 2; H373 Aquatic Chronic 3; H412	(1)(2)(6)(10)	Constituent
1,2,4-trimethylbenzene	95-63-6 202-436-9	2.5%<C<10%	Flam. Liq. 3; H226 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 Aquatic Chronic 2; H411	(1)(2)(10)	Constituent

(1) For H-statements in full: see heading 16
(2) Substance with a Community workplace exposure limit
(6) Enumerated in Annex VI of Regulation (EC) No. 1272/2008 but the classification has been adapted after evaluation of available test data
(8) Specific concentration limits, see heading 16
(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Wash immediately with lots of water. Do not apply (chemical) neutralizing agents without medical advice. Soap may be used. Take victim to a doctor if irritation persists.

After eye contact:
Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist if irritation persists.

After ingestion:
Rinse mouth with water. Do not apply (chemical) neutralizing agents without medical advice. Do not induce vomiting. Consult a doctor/medical service if you feel unwell.

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

4.2.1 Acute symptoms

After inhalation:
Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

After skin contact:
Tingling/irritation of the skin.

After eye contact:
Irritation of the eye tissue.

After ingestion:
Risk of aspiration pneumonia.

4.2.2 Delayed symptoms
No effects known.

4.3. Indication of any immediate medical attention and special treatment needed
If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:
Small fire: Water, Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting CO2 extinguisher.
Major fire: Quantities of water.

5.2. Special hazards arising from the substance or mixture
Upon combustion: CO and CO2 are formed. Pressurised container: May burst if heated.

5.3. Advice for firefighters

5.3.1 Instructions:
If exposed to fire cool the closed containers by spraying with water. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistant risk of physical explosion. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

5.3.2 Special protective equipment for fire-fighters:
Gloves (EN 374). Protective goggles (EN 166). Head/neck protection. Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: compressed air apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

6.1.1 Protective equipment for non-emergency personnel
See heading 8.2

6.1.2 Protective equipment for emergency responders
Gloves (EN 374). Protective goggles (EN 166). Head/neck protection. Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing
See heading 8.2

6.2. Environmental precautions
Dam up the liquid spill. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up
Take up liquid spill into absorbent material. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections
See heading 13.

SECTION 7: Handling and storage
The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling
Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe strict hygiene. Remove contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:
Storage temperature: < 50 °C. Store in a dry area. Keep container in a well-ventilated place. Keep out of direct sunlight. Fireproof storeroom. Protect against frost. Meet the legal requirements.

7.2.2 Keep away from:
Heat sources, ignition sources.

7.2.3 Suitable packaging material:
Aerosol.

7.2.4 Non suitable packaging material:
No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

1,2,4-Trimethylbenzene	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	20 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	100 mg/m³
Dimethylether	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	1000 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	1920 mg/m³
Ethyl acetate	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	200 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	734 mg/m³
	Short time value (Indicative occupational exposure limit value)	400 ppm
	Short time value (Indicative occupational exposure limit value)	1468 mg/m³
Ethylbenzene	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	100 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	442 mg/m³
	Short time value (Indicative occupational exposure limit value)	200 ppm
	Short time value (Indicative occupational exposure limit value)	884 mg/m³
Xylene, mixed isomers, pure	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	50 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	221 mg/m³
	Short time value (Indicative occupational exposure limit value)	100 ppm
	Short time value (Indicative occupational exposure limit value)	442 mg/m³

Belgium

4-Hydroxy-4-méthyl-2-pentanone	Time-weighted average exposure limit 8 h	50 ppm
	Time-weighted average exposure limit 8 h	241 mg/m³
Acétate d'éthyle	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	734 mg/m³
	Short time value	400 ppm
	Short time value	1468 mg/m³
Ethylbenzène	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	87 mg/m³
	Short time value	125 ppm
	Short time value	551 mg/m³
Oxyde de diméthyle	Time-weighted average exposure limit 8 h	1000 ppm
	Time-weighted average exposure limit 8 h	1920 mg/m³
Triméthylbenzène (tous isomères)	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	100 mg/m³
Xylène, isomères mixtes, purs	Time-weighted average exposure limit 8 h	50 ppm
	Time-weighted average exposure limit 8 h	221 mg/m³
	Short time value	100 ppm
	Short time value	442 mg/m³

The Netherlands

1,2,4-Trimethylbenzeen	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	20 ppm

1,2,4-Trimethylbenzeen	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	100 mg/m³
	Short time value (Public occupational exposure limit value)	40 ppm
	Short time value (Public occupational exposure limit value)	200 mg/m³
Dimethylether	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	496 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	950 mg/m³
	Short time value (Public occupational exposure limit value)	783 ppm
	Short time value (Public occupational exposure limit value)	1500 mg/m³
Ethylacetaat	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	734 mg/m³
	Short time value (Public occupational exposure limit value)	1468 mg/m³
Ethylbenzeen	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	49 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	215 mg/m³
	Short time value (Public occupational exposure limit value)	97 ppm
	Short time value (Public occupational exposure limit value)	430 mg/m³
Xyleen (o-,m- en p-isomeren)	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	48 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	210 mg/m³
	Short time value (Public occupational exposure limit value)	100 ppm
	Short time value (Public occupational exposure limit value)	442 mg/m³

France

1,2,4-Trimethylbenzène	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	20 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	100 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	50 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	250 mg/m³
Acétate d'éthyle	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	400 ppm
	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1400 mg/m³
Diacétone-alcool	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	50 ppm
	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	240 mg/m³
Ethylbenzène	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	20 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	88.4 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	100 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	442 mg/m³
Oxyde de diméthyle	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	1000 ppm
	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	1920 mg/m³
Xylènes, isomères mixtes, purs	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	50 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	221 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	100 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	442 mg/m³

Germany

1,2,4-Trimethylbenzol	Time-weighted average exposure limit 8 h (TRGS 900)	20 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	100 mg/m³
4-Hydroxy-4-methyl-pentan-2-on	Time-weighted average exposure limit 8 h (TRGS 900)	20 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	96 mg/m³
Dimethylether	Time-weighted average exposure limit 8 h (TRGS 900)	1000 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	1900 mg/m³
Ethylacetat	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	730 mg/m³
Ethylbenzol	Time-weighted average exposure limit 8 h (TRGS 900)	20 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	88 mg/m³
Xylol (alle Isomeren)	Time-weighted average exposure limit 8 h (TRGS 900)	100 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	440 mg/m³

UK

4-Hydroxy-4-methylpentan-2-one	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	50 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	241 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	75 ppm
	Short time value (Workplace exposure limit (EH40/2005))	362 mg/m³
Dimethyl ether	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	400 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	766 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	500 ppm
	Short time value (Workplace exposure limit (EH40/2005))	958 mg/m³
Ethyl acetate	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	200 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	734 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	400 ppm
	Short time value (Workplace exposure limit (EH40/2005))	1468 mg/m³
Ethylbenzene	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	100 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	441 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	125 ppm
	Short time value (Workplace exposure limit (EH40/2005))	552 mg/m³
Trimethylbenzenes, all isomers or mixtures	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	25 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	125 mg/m³
Xylene, o-,m-,p- or mixed isomers	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	50 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	220 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	100 ppm
	Short time value (Workplace exposure limit (EH40/2005))	441 mg/m³

USA (TLV-ACGIH)

Diacetone alcohol	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	50 ppm
Ethyl acetate	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	400 ppm
Ethyl benzene	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	20 ppm
Trimethyl benzene (mixed isomers)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	25 ppm
Xylene (all isomers)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	100 ppm
	Short time value (TLV - Adopted Value)	150 ppm

b) National biological limit values

If limit values are applicable and available these will be listed below.

Germany

Ethylbenzol (Mandelsäure plus Phenylglyoxylsäure)	Urin: expositionsende, bzw. schichtende	250 mg/g Kreatinin	11/2016 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
Trimethylbenzol (alle Isomeren): 1,2,4-Trimethylbenzol (Dimethylbenzoesäuren (Summe aller Isomeren nach Hydrolyse))	Urin: bei langzeitexposition: am schichtende nach mehreren vorangegangenen schichten expositionsende, bzw. schichtende	400 mg/g Kreatinin	11/2012 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
Xylol (alle isomeren) (Methylhippur-(Tolur-) säure (alle isomere))	Urin: expositionsende, bzw. schichtende	2000 mg/l	11/2016 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
Xylol (alle isomeren) (Xylol)	Vollblut: expositionsende, bzw. schichtende	1,5 mg/l	11/2016 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG

UK

Xylene, o-, m-, p- or mixed isomers (methyl hippuric acid)	Urine: post shift	650 mmol/mol creatinine	

USA (BEI-ACGIH)

Ethyl benzene (Sum of mandelic acid and phenylglyoxylic acid)	Urine: end of shift	0,15 mg/g creatinine	
Xyleen (Methylhippuric accids)	Urine: end of shift	1,5 g/g creatinine	

8.1.2 Sampling methods

Product name	Test	Number
diacetone alcohol (Alcohols Combined)	NIOSH	1405

Product name	Test	Number
Diacetone Alcohol (Alcohols III)	NIOSH	1402
Diacetone Alcohol	OSHA	7
Ethyl acetate (Volatile Organic compounds)	NIOSH	2549
Ethyl Acetate	NIOSH	1457
Ethyl Acetate	OSHA	7
Ethyl Benzene (Hydrocarbons, Aromatic)	NIOSH	1501
Ethyl Benzene	OSHA	1002
Ethyl Benzene	OSHA	7
Petroleum Distillate (Naphthas)	NIOSH	1550
Petroleum Distillates Fractions	OSHA	48
Trimethylbenzene (mixed isomers)	OSHA	1020
Trimethylbenzenes	OSHA	2091
Xylene (Hydrocarbons, aromatic)	NIOSH	1501
Xylene (Volatile Organic compounds)	NIOSH	2549

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

ethyl acetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	734 mg/m³	
	Acute systemic effects inhalation	1468 mg/m³	
	Long-term local effects inhalation	734 mg/m³	
	Acute local effects inhalation	1468 mg/m³	
	Long-term systemic effects dermal	63 mg/kg bw/day	

xylene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	221 mg/m³	
	Acute systemic effects inhalation	442 mg/m³	
	Long-term local effects inhalation	221 mg/m³	
	Acute local effects inhalation	442 mg/m³	
	Long-term systemic effects dermal	212 mg/kg bw/day	

4-hydroxy-4-methylpentan-2-one

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	32.6 mg/m³	
	Long-term local effects inhalation	240 mg/m³	
	Long-term systemic effects dermal	467 mg/kg bw/day	

ethylbenzene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	77 mg/m³	
	Acute local effects inhalation	293 mg/m³	
	Long-term systemic effects dermal	180 mg/kg bw/day	

1,2,4-trimethylbenzene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	100 mg/m³	
	Acute systemic effects inhalation	100 mg/m³	
	Long-term local effects inhalation	100 mg/m³	
	Acute local effects inhalation	100 mg/m³	
	Long-term systemic effects dermal	16171 mg/kg bw/day	

DNEL/DMEL - General population

ethyl acetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	367 mg/m³	
	Acute systemic effects inhalation	734 mg/m³	
	Long-term local effects inhalation	367 mg/m³	
	Acute local effects inhalation	734 mg/m³	
	Long-term systemic effects dermal	37 mg/kg bw/day	
	Long-term systemic effects oral	4.5 mg/kg bw/day	

xylene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	65.3 mg/m³	
	Acute systemic effects inhalation	260 mg/m³	
	Long-term local effects inhalation	65.3 mg/m³	
	Acute local effects inhalation	260 mg/m³	
	Long-term systemic effects dermal	125 mg/kg bw/day	
	Long-term systemic effects oral	12.5 mg/kg bw/day	

4-hydroxy-4-methylpentan-2-one

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5.8 mg/m³	
	Long-term systemic effects dermal	167 mg/kg bw/day	
	Long-term systemic effects oral	1.67 mg/kg bw/day	

ethylbenzene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	15 mg/m³	
	Long-term systemic effects oral	1.6 mg/kg bw/day	

1,2,4-trimethylbenzene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	29.4 mg/m³	
	Acute systemic effects inhalation	29.4 mg/m³	
	Long-term local effects inhalation	29.4 mg/m³	
	Acute local effects inhalation	29.4 mg/m³	
	Long-term systemic effects dermal	9512 mg/kg bw/day	
	Long-term systemic effects oral	15 mg/kg bw/day	

PNEC

ethyl acetate

Compartments	Value	Remark
Fresh water	0.24 mg/l	
Aqua (intermittent releases)	1.65 mg/l	
Marine water	0.024 mg/l	
STP	650 mg/l	
Fresh water sediment	1.15 mg/kg sediment dw	
Marine water sediment	0.115 mg/kg sediment dw	
Soil	0.148 mg/kg soil dw	
Oral	0.2 g/kg food	

xylene

Compartments	Value	Remark
Fresh water	0.327 mg/l	
Marine water	0.327 mg/l	
Fresh water (intermittent releases)	0.327 mg/l	
STP	6.58 mg/l	
Fresh water sediment	12.46 mg/kg sediment dw	
Marine water sediment	12.46 mg/kg sediment dw	
Soil	2.31 mg/kg soil dw	

4-hydroxy-4-methylpentan-2-one

Compartments	Value	Remark
Fresh water	2 mg/l	
Marine water	0.2 mg/l	
Fresh water (intermittent releases)	1 mg/l	
STP	10 mg/l	
Fresh water sediment	7.4 mg/kg sediment dw	
Marine water sediment	0.74 mg/kg sediment dw	
Soil	0.31 mg/kg soil dw	

ethylbenzene

Compartments	Value	Remark
Fresh water	0.1 mg/l	
Marine water	0.01 mg/l	
Fresh water (intermittent releases)	0.1 mg/l	
STP	9.6 mg/l	
Fresh water sediment	13.7 mg/kg sediment dw	
Marine water sediment	1.37 mg/kg sediment dw	
Soil	2.68 mg/kg soil dw	
Oral	0.02 g/kg food	

1,2,4-trimethylbenzene

Compartments	Value	Remark
Fresh water	0.12 mg/l	
Marine water	0.12 mg/l	
Fresh water (intermittent releases)	0.12 mg/l	
STP	2.41 mg/l	
Fresh water sediment	13.56 mg/kg sediment dw	
Marine water sediment	13.56 mg/kg sediment dw	
Soil	2.34 mg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly.

8.2.2 Individual protection measures, such as personal protective equipment

Observe strict hygiene. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374).

c) Eye protection:

Protective goggles (EN 166).

d) Skin protection:

Head/neck protection. Protective clothing (EN 14605 or EN 13034).

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Aerosol
Odour	Characteristic odour
Odour threshold	No data available in the literature
Colour	Variable in colour, depending on the composition
Particle size	Not applicable (liquid)
Explosion limits	1.1 - 18.6 vol % ; Propellant
Flammability	Extremely flammable aerosol.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available in the literature
Kinematic viscosity	No data available in the literature
Melting point	No data available in the literature
Boiling point	77 °C - 78 °C ; Liquid
Evaporation rate	No data available in the literature
Relative vapour density	No data available in the literature
Vapour pressure	5200 hPa ; 20 °C ; Propellant
Solubility	Water ; insoluble
Relative density	0.77 ; 20 °C ; Liquid
Decomposition temperature	No data available
Auto-ignition temperature	Not applicable (aerosol)
Flash point	Not applicable (aerosol)
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available in the literature

9.2. Other information

Absolute density	765 kg/m³ ; 20 °C ; Liquid

SECTION 10: Stability and reactivity

10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard.

10.2. Chemical stability

Unstable on exposure to heat.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

Upon combustion: CO and CO2 are formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

PUP-002

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	10200 mg/kg bw		Rat (female)	Experimental value	
Dermal	LD50	24 hour cuff method	> 20000 mg/kg bw	24 h	Rabbit (male)	Experimental value	
Inhalation (vapours)	LC0	Equivalent to OECD 403	29.3 mg/l	4 h	Rat	Experimental value	

xylene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to EU Method B.1	3523 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50		> 4200 mg/kg bw	4 h	Rabbit (male)	Weight of evidence	
Dermal			category 4			Annex VI	
Inhalation (vapours)	LC50	Equivalent to EU Method B.2	29 mg/l	4 h	Rat (male)	Experimental value	
Inhalation			category 4			Annex VI	

4-hydroxy-4-methylpentan-2-one

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	3002 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 404	13750 mg/kg bw		Rabbit	Experimental value	
Inhalation (vapours)	LC0	Equivalent to OECD 403	≥ 7.6 mg/l	4 h	Rat (male / female)	Experimental value	

ethylbenzene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		3500 mg/kg		Rat (male / female)	Experimental value	
Dermal	LD50		15432 mg/kg	24 h	Rabbit (male)	Experimental value	
Inhalation (vapours)	LC50		17.8 mg/l	4 h	Rat (male)		

1,2,4-trimethylbenzene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	EU Method B.1 tris	6000 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50		3440 mg/kg	24 h	Rat (male / female)	Read-across	
Inhalation (vapours)	LC50		> 10.2 mg/l air	4 h	Rat (male / female)	Read-across	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

PUP-002

No (test)data on the mixture available

Classification is based on the relevant ingredients

ethyl acetate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Slightly irritating	Equivalent to OECD 405		1; 24; 48; 72 hrs; 7; 14; 21 days	Rabbit	Experimental value	Single treatment
Eye	Irritating; category 2					Annex VI	
Skin	Slightly irritating	Equivalent to OECD 404	24 h	24; 48; 72 hours	Rabbit	Experimental value	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

xylene

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Moderately irritating			24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Moderately irritating		24 h	24; 72 hours	Rabbit	Experimental value	
Inhalation (vapours)	Irritating		4 h		Human	Read-across	
Inhalation	Irritating; STOT SE cat.3					Annex VI	

4-hydroxy-4-methylpentan-2-one

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	
Eye	Irritating	Human observation	8 h		Human	Weight of evidence	100 ppm
Skin	Slightly irritating	Equivalent to OECD 404		24; 72 hours	Rabbit	Experimental value	
Inhalation	Irritating	Human observation	15 minutes		Human	Experimental value	

ethylbenzene

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Slightly irritating			7 days	Rabbit	Experimental value	
Skin	Moderately irritating		24 h	24 hours	Rabbit	Experimental value	

1,2,4-trimethylbenzene

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	Equivalent to OECD 405			Rabbit	Read-across	Single treatment
Eye	Irritating; category 2					Annex VI	
Skin	Irritating	EU Method B.4	4 h	24; 48; 72 hours	Rabbit	Read-across	
Inhalation (vapours)	Irritating	Other	6 minutes		Mouse	Experimental value	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

Conclusion

Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

Respiratory or skin sensitisation

PUP-002

No (test)data on the mixture available
Judgement is based on the relevant ingredients

ethyl acetate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Intradermal	Not sensitizing	OECD 406		24; 48 hours	Guinea pig (female)	Experimental value	

xylene

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 429			Mouse	Experimental value	

4-hydroxy-4-methylpentan-2-one

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406		24; 48 hours	Guinea pig (male / female)	Experimental value	

ethylbenzene

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin						Data waiving	

1,2,4-trimethylbenzene

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 406		24; 48; 72 hours	Guinea pig (male / female)	Read-across	

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

PUP-002

No (test)data on the mixture available

Classification is based on the relevant ingredients

ethyl acetate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	EPA OTS 795.2600	900 mg/kg bw/day	General	No effect	90 day(s) - 92 day(s)	Rat (male / female)	Experimental value
Oral (stomach tube)	LOAEL	EPA OTS 795.2600	3600 mg/kg bw/day	General	Body weight, organ weight, food consumption	90 day(s) - 92 day(s)	Rat (male / female)	Experimental value
Inhalation	NOEC	EPA OTS 798.2450	350 ppm	General	No adverse systemic effects	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation			STOT SE cat.3		Drowsiness, dizziness			Annex VI

xylene

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	LOAEL	Equivalent to OECD 408	150 mg/kg bw/day	Liver	Weight gain	90 day(s)	Rat (male)	Experimental value
Inhalation (vapours)	NOAEC		≥ 3515 mg/m³		No effect	13 weeks (6h / day, 5 days / week)	Rat (male)	Experimental value

4-hydroxy-4-methylpentan-2-one

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOAEL	OECD 422	30 mg/kg bw/day		No effect	44 day(s)	Rat (male)	Experimental value
Oral	NOAEL	OECD 422	100 mg/kg bw/day		No effect	41 day(s) - 45 day(s)	Rat (female)	Experimental value
Dermal								Data waiving
Inhalation	NOAEC	Equivalent to OECD 412	1041 mg/m³ air		No effect	6 weeks (daily, 5 days / week)	Rat (male / female)	Experimental value

ethylbenzene

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 408	75 mg/kg bw/day		No effect	13 week(s)	Rat (male / female)	Experimental value
Oral (stomach tube)	LOAEL	OECD 408	250 mg/kg bw/day	Liver	Enlargement/ affection of the liver	13 week(s)	Rat (male / female)	Experimental value
	NOAEC		78 mg/kg bw/day	Hearing organs			Rat	
Inhalation	NOAEL	Equivalent to OECD 413	1000 ppm		No effect	13 weeks (6h / day, 5 days / week)	Mouse (male / female)	Experimental value
Inhalation	NOAEC		114 ppm	Hearing organs	No effect	90 day(s)	Rat	Experimental value
Inhalation	Dose level		> 200 ppm	Hearing organs	Impairment/degeneration	90 day(s)	Rat	Experimental value

Due to differences in metabolism the relevance for humans if swallowed is questioned

1,2,4-trimethylbenzene

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 408	600 mg/kg bw/day		No effect	13 weeks (daily, 5 days / week)	Rat (male / female)	Read-across
Dermal								Data waiving
Inhalation (vapours)	NOAEC	Equivalent to OECD 452	1800 mg/m³ air		No adverse systemic effects	52 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

Conclusion

May cause damage to organs through prolonged or repeated exposure.

Mutagenicity (in vitro)

PUP-002

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 473	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

xylene

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to EU Method B.19	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

4-hydroxy-4-methylpentan-2-one

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	
Negative	Equivalent to OECD 472	Escherichia coli		Experimental value	
Negative	OECD 473	CHL/IU cells		Experimental value	
Negative	OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value	

ethylbenzene

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 473	Chinese hamster ovary (CHO)	No effect	Experimental value	

1,2,4-trimethylbenzene

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Chinese hamster ovary (CHO)	No effect	Read-across	

Mutagenicity (in vivo)

PUP-002

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 474		Mouse (male)		Experimental value

xylene

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 478		Mouse (male / female)		Experimental value

ethylbenzene

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	OECD 474		Mouse (male)		Experimental value

1,2,4-trimethylbenzene

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Intraperitoneal)	Equivalent to OECD 474	2 days (1x / day)	Mouse (male / female)	Bone marrow	Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

PUP-002

No (test)data on the mixture available

Judgement is based on the relevant ingredients

xylene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral	NOAEL	Equivalent to EU Method B.32	≥ 500 mg/kg bw/day	103 weeks (5 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value
Oral	NOAEL	Equivalent to EU Method B.32	≥ 1000 mg/kg bw/day	103 weeks (5 days / week)	Mouse (male / female)	No carcinogenic effect		Experimental value

4-hydroxy-4-methylpentan-2-one

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation	NOAEC	OECD 451	450 ppm	102 weeks (daily, 5 days / week)	Rat (male / female)	Neoplastic effects	Kidney	Read-across

ethylbenzene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (vapours)	NOAEC	Equivalent to OECD 453	250 ppm	104 weeks (6h / day, 5 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value

1,2,4-trimethylbenzene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation								Data waiving
Dermal								Data waiving
Oral								Data waiving

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

PUP-002

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	> 3600 mg/kg bw/day	7 day(s)	Mouse	No effect	Foetus	Read-across
Maternal toxicity	NOAEL	Equivalent to OECD 414	2200 mg/kg bw/day	8 days (gestation, daily) - 14 days (gestation, daily)	Mouse	No effect		Read-across
	LOAEL	Equivalent to OECD 414	3600 mg/kg bw/day	8 days (gestation, daily) - 14 days (gestation, daily)	Mouse	Mortality	General	Read-across
Effects on fertility	NOAEL	Equivalent to OECD 416	20700 mg/kg bw/day	13 weeks (6h / day, 5 days / week)	Mouse (male / female)	No effect		Experimental value

xylene

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Inhalation (vapours))	BMCL10	Equivalent to OECD 414	1082 ppm	15 days (gestation, daily)	Rat (female)	No effect		Experimental value
Maternal toxicity (Inhalation (vapours))	BMCL10	Equivalent to OECD 414	887 ppm	15 days (gestation, daily)	Rat (female)	No effect		Experimental value
Effects on fertility (Inhalation (vapours))	NOAEC (P)	EPA OPPTS 870.3800	≥ 500 ppm	70 days (6h / day)	Rat (male / female)	No effect		Read-across

4-hydroxy-4-methylpentan-2-one

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	OECD 414	4106 mg/m³	6 days (gestation, daily) - 15 days (gestation, daily)	Rat (male / female)	No effect		Read-across
Effects on fertility	NOAEL (P)	OECD 422	300 mg/kg bw/day	41 day(s) - 44 day(s)	Rat (male / female)	No effect		Experimental value

ethylbenzene

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	OECD 414	500 ppm	15 days (gestation, daily)	Rat (female)	No effect	Foetus	Experimental value
Maternal toxicity	NOAEC	OECD 414	500 ppm	15 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility	NOAEC (P/F1/F2)	OECD 416	500 ppm	70 days (6h / day)	Rat (male / female)	No effect		Experimental value

1,2,4-trimethylbenzene

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Inhalation (vapours))	NOAEC	Equivalent to OECD 414	1470 mg/m³ air	15 days (6h / day)	Rat (female)	No effect	Foetus	Experimental value
	LOAEC	Equivalent to OECD 414	2950 mg/m³ air	15 days (6h / day)	Rat	Reduced foetal bodyweights	Foetus	Experimental value
Maternal toxicity (Inhalation (gases))	NOAEC	Equivalent to OECD 414	1470 mg/m³ air	15 days (6h / day)	Rat	No effect		Experimental value
	LOAEC	Equivalent to OECD 414	2950 mg/m³ air	15 days (6h / day)	Rat	Reduced body weight and food consumption	General	Experimental value
Effects on fertility (Inhalation (vapours))	NOAEC (P/F1/F2)	Equivalent to OECD 416	500 ppm	10 weeks (6h / day, 5 days / week)	Rat (male / female)	No effect		Read-across

Conclusion

Not classified for reprotoxic or developmental toxicity

Aspiration hazard

Judgement is based on the relevant ingredients
No data available on viscosity at 40°C; mixture contains or may contain more than 10 % of a component with aspiration hazard
May be fatal if swallowed and enters airways.

Toxicity other effects

PUP-002

No (test)data on the mixture available

ethyl acetate

Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
			Skin	Dehydration	6 days (1x / day)	Human	Experimental value Skin
			Skin	Skin dryness or cracking			Literature Skin

Chronic effects from short and long-term exposure

PUP-002

No effects known.

SECTION 12: Ecological information

12.1. Toxicity

PUP-002

No (test)data on the mixture available
Classification is based on the relevant ingredients

ethyl acetate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	US EPA	230 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value
Acute toxicity crustacea	EC50		154 mg/l	48 h	Daphnia magna			Literature
Toxicity algae and other aquatic plants	NOEC	OECD 201	> 100 mg/l	72 h	Scenedesmus subspicatus	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	ECOSAR v1.00	6.3 mg/l	32 day(s)	Pisces		Fresh water	QSAR
	NOEC	OECD 210	< 9.65 mg/l	32 day(s)	Pimephales promelas	Flow-through system	Fresh water	Experimental value; Growth rate
Long-term toxicity aquatic crustacea	NOEC	Equivalent to OECD 211	2.4 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	EC50		5870 mg/l	15 minutes	Photobacterium phosphoreum	Static system	Salt water	Experimental value; Inhibition

xylene

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	2.6 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Read-across; Lethal
Acute toxicity crustacea	IC50	OECD 202	1 mg/l	24 h	Daphnia magna	Static system	Fresh water	Read-across
Toxicity algae and other aquatic plants	ErC50	OECD 201	4.36 mg/l	73 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Read-across; GLP
	NOEC	OECD 201	0.44 mg/l	73 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Read-across; GLP
Long-term toxicity fish	NOEC		> 1.3 mg/l	56 day(s)	Oncorhynchus mykiss	Flow-through system	Fresh water	Read-across; Lethal
Long-term toxicity aquatic crustacea	NOEC	EPA 600/4-91-003	0.96 mg/l	7 day(s)	Ceriodaphnia dubia	Daily renewal	Fresh water	Read-across; Reproduction
Toxicity aquatic micro-organisms	EC50	OECD 209	> 157 mg/l	3 h	Activated sludge	Static system	Fresh water	Read-across; GLP

4-hydroxy-4-methylpentan-2-one

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	> 100 mg/l	96 h	Oryzias latipes	Semi-static system	Fresh water	Experimental value
Acute toxicity crustacea	EC50	OECD 202	> 1000 mg/l	48 h	Daphnia magna	Semi-static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	OECD 201	> 1000 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea	NOEC	OECD 211	100 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	Toxicity threshold	Other	825 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value
	EC50	OECD 209	> 1000 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; GLP

ethylbenzene

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	4.2 mg/l	96 h	Salmo gairdneri	Semi-static system	Fresh water	Experimental value
Acute toxicity crustacea	EC50	US EPA	1.8 mg/l - 2.4 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	EC50	OECD 201	4.6 mg/l	72 h	Selenastrum capricornutum			Experimental value; Growth rate
	NOEC	US EPA	4.5 mg/l	96 h	Skeletonema costatum	Static system	Marine water	Experimental value; GLP
Long-term toxicity fish	ChV	ECOSAR v1.00	1.13 mg/l	30 day(s)	Pisces			QSAR
Long-term toxicity aquatic crustacea	NOEC	US EPA	1 mg/l	7 day(s)	Ceriodaphnia dubia	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	EC50		96 mg/l	24 h	Nitrosomonas			Experimental value

1,2,4-trimethylbenzene

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		7.72 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value; Lethal
Acute toxicity crustacea	LC50	Equivalent to OECD 202	3.6 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	EC50	ECOSAR	2.356 mg/l	96 h	Algae		Fresh water	QSAR
Long-term toxicity fish	ChV	ECOSAR	0.396 mg/l	30 day(s)	Pisces		Fresh water	QSAR; Lethal
Long-term toxicity aquatic crustacea	ChV	ECOSAR	0.367 mg/l	16 day(s)	Daphnia sp.		Fresh water	QSAR; Lethal
Toxicity aquatic micro-organisms	Dose level		500 mg/l	3 h	Activated sludge		Fresh water	Experimental value; Respiration

Conclusion

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

ethyl acetate

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B: CO2 Evolution Test	93.9 %	28 day(s)	Experimental value
OECD 301D: Closed Bottle Test	100 %	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	40 h	500000 /cm³	QSAR

xylene

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	98 %; GLP	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	23.2 h	500000 /cm³	Read-across

Biodegradation soil

Method	Value	Duration	Value determination
Equivalent or similar to OECD 304A	50 %	23 day(s)	Experimental value

4-hydroxy-4-methylpentan-2-one

Biodegradation water

Method	Value	Duration	Value determination
Equivalent or similar to OECD 301A	98.51 %	28 day(s)	Experimental value

ethylbenzene

Biodegradation water

Method	Value	Duration	Value determination
ISO 14593	70 % - 80 %; GLP	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	2.3 day(s)	500000 /cm³	Literature study

Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
	3 day(s) - 10 day(s)		Literature study

1,2,4-trimethylbenzene

Biodegradation water

Method	Value	Duration	Value determination
OECD 301C: Modified MITI Test (I)	4 % - 18 %	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	7.687 h	1.5E6 /cm³	Calculated value

Conclusion

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

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Log Kow

Method	Remark	Value	Temperature	Value determination

	Not applicable (mixture)			

ethyl acetate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		30	3 day(s)	Leuciscus idus	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
EPA OPPTS 830.7560		0.68	25 °C	Experimental value

xylene

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		25.9	56 day(s)	Oncorhynchus mykiss	Read-across

Log Kow

Method	Remark	Value	Temperature	Value determination
		3.12 - 3.2	20 °C	Read-across

solvent naphtha (petroleum), light arom.

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		69.88 l/kg; Fresh weight			Estimated value

Log Kow

Method	Remark	Value	Temperature	Value determination
		3.30		Experimental value

4-hydroxy-4-methylpentan-2-one

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
		Data not required			

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
		Data not required			

Log Kow

Method	Remark	Value	Temperature	Value determination
		-0.09	20 °C	Calculated

ethylbenzene

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		1	6 week(s)	Oncorhynchus kisutch	Literature study

Log Kow

Method	Remark	Value	Temperature	Value determination
EU Method A.8		3.6	20 °C	Experimental value

1,2,4-trimethylbenzene

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		243		Pimephales promelas	QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
KOWWIN		3.63		Experimental value

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

ethyl acetate

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	51.3 %	0 %	0.27 %	13.3 %	35.3 %	Calculated value

xylene

(log) Koc

Parameter	Method	Value	Value determination
log Koc	Equivalent to OECD 121	2.73	Read-across

4-hydroxy-4-methylpentan-2-one

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	1	QSAR

ethylbenzene

(log) Koc

Parameter	Method	Value	Value determination
log Koc	PCKOCWIN v1.66	2.71	QSAR

1,2,4-trimethylbenzene

(log) Koc

Parameter	Method	Value	Value determination
log Koc		3.04	Calculated value

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Other adverse effects

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Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Groundwater

Groundwater pollutant

ethyl acetate

Groundwater

Groundwater pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Not classified as hazardous waste when part A and part B are mixed and are fully cured. Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).
08 01 11* (wastes from MFSU and removal of paint and varnish: waste paint and varnish containing organic solvents or other hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).
15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	1950

14.2. UN proper shipping name

Proper shipping name	Aerosols

14.3. Transport hazard class(es)

Hazard identification number	
Class	2
Classification code	5F

14.4. Packing group

Packing group	
Labels	2.1

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625

Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number

UN number	1950

14.2. UN proper shipping name

Proper shipping name	Aerosols

14.3. Transport hazard class(es)

Hazard identification number	23
Class	2
Classification code	5F

14.4. Packing group

Packing group	
Labels	2.1

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)

14.1. UN number

UN number	1950

14.2. UN proper shipping name

Proper shipping name	Aerosols

14.3. Transport hazard class(es)

Class	2
Classification code	5F

14.4. Packing group

Packing group	
Labels	2.1

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Sea (IMDG/IMSBC)

14.1. UN number

UN number	1950

14.2. UN proper shipping name

Proper shipping name	aerosols

14.3. Transport hazard class(es)

Class	2.1

14.4. Packing group

Packing group	
Labels	2.1

14.5. Environmental hazards

Marine pollutant	-
Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	190
Special provisions	277
Special provisions	327
Special provisions	344
Special provisions	381
Special provisions	63
Special provisions	959
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

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

Annex II of MARPOL 73/78	Not applicable

Air (ICAO-TI/IATA-DGR)

14.1. UN number

UN number	1950

14.2. UN proper shipping name

Proper shipping name	Aerosols, flammable

14.3. Transport hazard class(es)

Class	2.1

14.4. Packing group

Packing group	
Labels	2.1

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	A145
Special provisions	A167
Special provisions	A802

Passenger and cargo transport

Limited quantities: maximum net quantity per packaging	30 kg G

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
97.76 %	

Indicative occupational exposure limit values (Directive 98/24/EC, 2000/39/EC and 2009/161/EU)

xylene

Product name	Skin resorption
Xylene, mixed isomers, pure	Skin

ethylbenzene

Product name	Skin resorption
Ethylbenzene	Skin

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· ethyl acetate · xylene · solvent naphtha (petroleum), light arom. · ethylbenzene · 1,2,4-trimethylbenzene	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life- threatening lung damage”; b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: “Just a sip of grill lighter may lead to life threatening lung damage”; c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010. 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled H304, intended for supply to the general public. 7. Natural or legal persons placing on the market for the first time lamp oils and grill

		lighter fluids, labelled with H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'
· ethyl acetate · xylene · solvent naphtha (petroleum), light arom. · 4-hydroxy-4-methylpentan-2-one · ethylbenzene · 1,2,4-trimethylbenzene	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.	1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: — metallic glitter intended mainly for decoration, — artificial snow and frost, — “whoopee” cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs. 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: “For professional users only”. 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC. 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

National legislation Belgium

PUP-002

No data available

xylene

Résorption peau	Xylène, isomères mixtes, purs; D; La mention “D” signifie que la résorption de l’agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l’exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l’agent dans l’air.

ethylbenzene

Résorption peau	Ethylbenzène; D; La mention “D” signifie que la résorption de l’agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l’exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l’agent dans l’air.

National legislation The Netherlands

PUP-002

Waterbezwaarlijkheid	Z (1); Algemene Beoordelingsmethodiek (ABM)

xylene

Huidopname (wettelijk)	Xyleen (o-,m- en p-isomeren); H
SZW - Lijst van voor de voortplanting giftige stoffen (ontwikkeling)	xyleen; 2; Suspected of damaging the unborn child.

ethylbenzene

Huidopname (wettelijk)	Ethylbenzeen; H

National legislation France

PUP-002

No data available

xylene

Risque de pénétration percutanée	Xylènes, isomères mixtes, purs; PP

ethylbenzene

Risque de pénétration percutanée	Ethylbenzène; PP

National legislation Germany

PUP-002

WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

ethyl acetate

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Ethylacetat; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

xylene

TA-Luft	5.2.5/I
Hautresorptive Stoffe	Xylol (alle Isomeren); H; Hautresorptiv

solvent naphtha (petroleum), light arom.

TA-Luft	5.2.5/I

4-hydroxy-4-methylpentan-2-one

TA-Luft	5.2.5
Hautresorptive Stoffe	4-Hydroxy-4-methyl-pentan-2-on; H; Hautresorptiv

ethylbenzene

TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	Ethylbenzol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	Ethylbenzol; H; Hautresorptiv

1,2,4-trimethylbenzene

TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	1,2,4-Trimethylbenzol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

National legislation United Kingdom

PUP-002

No data available

xylene

Skin absorption	Xylene, o-,m-,p- or mixed isomers; Sk

ethylbenzene

Skin absorption	Ethylbenzene; Sk

Other relevant data

PUP-002

No data available

xylene

IARC - classification	3; Xylenes
TLV - Carcinogen	Xylene (all isomers); A4

ethylbenzene

IARC - classification	2B; Ethylbenzene
TLV - Carcinogen	Ethyl benzene; A3

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H-statements referred to under heading 3:

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.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs (ears (hearing damage)) through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs (central nervous system, liver, kidneys) through prolonged or repeated exposure if swallowed.
H373 May cause damage to organs (central nervous system, liver, kidneys) through prolonged or repeated exposure if inhaled.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

Specific concentration limits CLP

4-hydroxy-4-methylpentan-2-one	C ≥ 10 %	Eye Irrit. 2; H319	CLP Annex VI (ATP 0)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.