

SAFETY DATA SHEET

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

NOVAFUEL POWERKLEEN

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

1.1. Product identifier

Product name : NOVAFUEL POWERKLEEN
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

Fuel: additive
Detergent according to Regulation (EC) No 648/2004

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
Flam. Liq.	category 2	H225: Highly flammable liquid and vapour.
Acute Tox.	category 4	H332: Harmful if inhaled.
Acute Tox.	category 4	H312: Harmful in contact with skin.
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.
STOT SE	category 3	H336: May cause drowsiness or dizziness.
Aquatic Chronic	category 3	H412: Harmful to aquatic life with long lasting effects.

2.2. Label elements



Contains: xylene; acetone.

Signal word Danger

H-statements

H225 Highly flammable liquid and vapour.
H312 + H332 Harmful in contact with skin or if inhaled.

Created by: Brandweerinformatiecentrum voor gevaarlijke stoffen vzw (BIG)

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H304	May be fatal if swallowed and enters airways.
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.
H336	May cause drowsiness or dizziness.
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.
P280	Wear protective gloves, protective clothing and eye protection/face protection.
P260	Do not breathe vapours/mist.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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
xylene 01-2119488216-32	1330-20-7 215-535-7	C≤50%	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
acetone 01-2119471330-49	67-64-1 200-662-2	C≤40%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent
ethanol 01-2119457610-43	64-17-5 200-578-6	C≤10%	Flam. Liq. 2; H225 Eye Irrit. 2; H319	(1)(2)(6)(8)(10)	Constituent
4-hydroxy-4-methylpentan-2-one 01-2119473975-21	123-42-2 204-626-7	C≤5%	Flam. Liq. 3; H226 Eye Irrit. 2; H319	(1)(2)(10)	Constituent
(Z)-Octadec-9-enylamine, ethoxylated	26635-93-8 500-048-7	C≤0.5%	Acute Tox. 4; H302 Eye Dam. 1; H318 Skin Irrit. 2; H315 Aquatic Acute 1; H400	(1)(9)	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

(9) M-factor, 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:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

After eye contact:

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

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After ingestion:

Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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. Headache. Dizziness. Drowsiness.

After skin contact:

Tingling/irritation of the skin. ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Cracking of the skin.

After eye contact:

Irritation of the eye tissue.

After ingestion:

Risk of aspiration pneumonia. Irritation of the gastric/intestinal mucosa.

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: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (not alcohol-resistant).

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Do not move the load if exposed to heat. 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

Contain released product. Dam up the liquid spill. Try to reduce evaporation. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert 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

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges. Gas/vapour heavier than air at 20°C.

Observe strict hygiene. Remove contaminated clothing immediately. Keep container tightly closed. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

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Storage temperature: < 50 °C. Protect against frost. Ventilation at floor level. Fireproof storeroom. Keep out of direct sunlight. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, ignition sources, oxidizing agents, reducing agents, (strong) acids, (strong) bases.

7.2.3 Suitable packaging material:

No data available

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

Acetone	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	500 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	1210 mg/m ³
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/m ³
	Short time value (Indicative occupational exposure limit value)	100 ppm
	Short time value (Indicative occupational exposure limit value)	442 mg/m ³

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/m ³
Acétone	Time-weighted average exposure limit 8 h	500 ppm
	Time-weighted average exposure limit 8 h	1210 mg/m ³
	Short time value	1000 ppm
	Short time value	2420 mg/m ³
Alcool éthylique	Time-weighted average exposure limit 8 h	1000 ppm
	Time-weighted average exposure limit 8 h	1907 mg/m ³
Xylène, isomères mixtes, purs	Time-weighted average exposure limit 8 h	50 ppm
	Time-weighted average exposure limit 8 h	221 mg/m ³
	Short time value	100 ppm
	Short time value	442 mg/m ³

The Netherlands

Aceton	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	501 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	1210 mg/m ³
	Short time value (Public occupational exposure limit value)	1002 ppm
	Short time value (Public occupational exposure limit value)	2420 mg/m ³
Ethanol	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	136 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	260 mg/m ³
	Short time value (Public occupational exposure limit value)	992 ppm
	Short time value (Public occupational exposure limit value)	1900 mg/m ³
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/m ³
	Short time value (Public occupational exposure limit value)	100 ppm
	Short time value (Public occupational exposure limit value)	442 mg/m ³

France

Acétone	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	500 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	1210 mg/m ³
	Short time value (VRC: Valeur réglementaire contraignante)	1000 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	2420 mg/m ³

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Alcool éthylique	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1000 ppm
	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1900 mg/m ³
	Short time value (VL: Valeur non réglementaire indicative)	5000 ppm
	Short time value (VL: Valeur non réglementaire indicative)	9500 mg/m ³
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/m ³
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/m ³
	Short time value (VRC: Valeur réglementaire contraignante)	100 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	442 mg/m ³

Germany

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/m ³
Aceton	Time-weighted average exposure limit 8 h (TRGS 900)	500 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	1200 mg/m ³
Ethanol	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	380 mg/m ³
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/m ³

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/m ³
	Short time value (Workplace exposure limit (EH40/2005))	75 ppm
	Short time value (Workplace exposure limit (EH40/2005))	362 mg/m ³
Acetone	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	500 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1210 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	1500 ppm
	Short time value (Workplace exposure limit (EH40/2005))	3620 mg/m ³
Ethanol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1000 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1920 mg/m ³
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/m ³
	Short time value (Workplace exposure limit (EH40/2005))	100 ppm
	Short time value (Workplace exposure limit (EH40/2005))	441 mg/m ³

USA (TLV-ACGIH)

Acetone	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	250 ppm
	Short time value (TLV - Adopted Value)	500 ppm
Diacetone alcohol	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	50 ppm
Ethanol	Short time value (TLV - Adopted Value)	1000 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

Aceton (Aceton)	Urin: expositionsende, bzw. schichtende	80 mg/l	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

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UK

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

Acetone (Acetone)	Urine: end of shift	25 mg/L	Nonspecific
Xylen (Methylhippuric acids)	Urine: end of shift	1,5 g/g creatinine	

8.1.2 Sampling methods

Product name	Test	Number
Acetone (ketones 1)	NIOSH	1300
Acetone (ketones I)	NIOSH	2555
Acetone (organic and inorganic gases by Extractive FTIR)	NIOSH	3800
Acetone (Volatile Organic compounds)	NIOSH	2549
ACETONE and METHYL ETHYL KETONE in urine	NIOSH	8319
Acetone	OSHA	69
diacetone alcohol (Alcohols Combined)	NIOSH	1405
Diacetone Alcohol (Alcohols III)	NIOSH	1402
Diacetone Alcohol	OSHA	7
Ethanol (Volatile Organic compounds)	NIOSH	2549
ethanol	NIOSH	8002
Ethyl Alcohol (Ethanol)(Alcohols I)	NIOSH	1400
Ethyl Alcohol	OSHA	100
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

xylene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	221 mg/m ³	
	Acute systemic effects inhalation	442 mg/m ³	
	Long-term local effects inhalation	221 mg/m ³	
	Acute local effects inhalation	442 mg/m ³	
	Long-term systemic effects dermal	212 mg/kg bw/day	

acetone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1210 mg/m ³	
	Acute local effects inhalation	2420 mg/m ³	
	Long-term systemic effects dermal	186 mg/kg bw/day	

ethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	950 mg/m ³	
	Long-term systemic effects dermal	343 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/m ³	
	Acute local effects inhalation	240 mg/m ³	
	Long-term systemic effects inhalation	467 mg/kg bw/day	

DNEL/DMEL - General population

xylene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	65.3 mg/m ³	
	Acute systemic effects inhalation	260 mg/m ³	
	Long-term local effects inhalation	65.3 mg/m ³	
	Acute local effects inhalation	260 mg/m ³	
	Long-term systemic effects dermal	125 mg/kg bw/day	
	Long-term systemic effects oral	12.5 mg/kg bw/day	

acetone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	200 mg/m ³	
	Long-term systemic effects dermal	62 mg/kg bw/day	
	Long-term systemic effects oral	62 mg/kg bw/day	

ethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	114 mg/m ³	
	Long-term systemic effects dermal	206 mg/kg bw/day	
	Long-term systemic effects oral	87 mg/kg bw/day	

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4-hydroxy-4-methylpentan-2-one

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5.8 mg/m ³	
	Long-term systemic effects dermal	167 mg/kg bw/day	
	Long-term systemic effects oral	1.67 mg/kg bw/day	

PNEC

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	

acetone

Compartments	Value	Remark
Fresh water	10.6 mg/l	
Marine water	1.06 mg/l	
Fresh water (intermittent releases)	21 mg/l	
STP	100 mg/l	
Fresh water sediment	30.4 mg/kg sediment dw	
Marine water sediment	3.04 mg/kg sediment dw	
Soil	29.5 mg/kg soil dw	

ethanol

Compartments	Value	Remark
Fresh water	0.96 mg/l	
Marine water	0.79 mg/l	
Aqua (intermittent releases)	2.75 mg/l	
STP	580 mg/l	
Fresh water sediment	3.6 mg/kg sediment dw	
Marine water sediment	2.9 mg/kg sediment dw	
Soil	0.63 mg/kg soil dw	
Oral	0.38 g/kg food	

4-hydroxy-4-methylpentan-2-one

Compartments	Value	Remark
Fresh water	2 mg/l	
Fresh water (intermittent releases)	1 mg/l	
Marine water	0.2 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	

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

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

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).

Materials	Measured breakthrough time	Thickness	Protection index	Remark
butyl rubber	> 480 minutes	0.7 mm	Class 6	

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

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Characteristic odour
Odour threshold	No data available in the literature
Colour	No data available on colour
Particle size	Not applicable (liquid)
Explosion limits	1.00 - 19.00 vol %
Flammability	Highly flammable liquid and vapour.
Log Kow	Not applicable (mixture)
Dynamic viscosity	1 mPa.s ; 20 °C
Kinematic viscosity	1 mm ² /s ; 40 °C
Melting point	No data available in the literature
Boiling point	57 °C - 172 °C
Evaporation rate	5.60 ; Butyl acetate
Relative vapour density	No data available in the literature
Vapour pressure	59 hPa ; 20 °C
Solubility	Water ; insoluble
Relative density	0.84 ; 20 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	370 °C
Flash point	6 °C
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	839 kg/m ³ ; 20 °C
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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

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges.

10.5. Incompatible materials

Oxidizing agents, reducing agents, (strong) acids, (strong) bases.

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

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No (test)data on the mixture available

Classification is based on the relevant ingredients

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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	

acetone

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	5800 mg/kg		Rat (female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	20000 mg/kg		Rabbit (male)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 15800 mg/kg bw	24 h	Rabbit (male)	Weight of evidence	
Inhalation (vapours)	LC50	Other	76 mg/l	4 h	Rat (female)	Weight of evidence	

ethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	10470 mg/kg bw		Rat (male / female)	Experimental value	
Dermal						Data waiving	
Inhalation (vapours)	LC50	Equivalent to OECD 403	124.7 mg/l air	4 h	Rat (male / female)	Experimental value	

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	LD0	Equivalent to OECD 402	> 1875 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 1875 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation (vapours)	LC0	Equivalent to OECD 403	≥ 7.6 mg/l air	4 h	Rat (male / female)	Experimental value	

(Z)-Octadec-9-enylamine, ethoxylated

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral			category 4			Literature study	

Conclusion

Harmful in contact with skin.

Harmful if inhaled.

Not classified as acute toxic if swallowed

Corrosion/irritation

NOVAFUEL POWERKLEEN

No (test)data on the mixture available

Classification is based on the relevant ingredients

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	

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NOVAFUEL POWERKLEEN

acetone

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405		24; 48; 72 hours	Rabbit	Weight of evidence	
Skin	Not irritating	Other	3 day(s)	24; 48; 72 hours	Guinea pig	Weight of evidence	
Inhalation	Slightly irritating	Human observation study	20 minutes		Human	Literature	

ethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405	14 day(s)	24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Not irritating	OECD 404	24 h	1; 2; 3; 4; 5; 7 days	Rabbit	Experimental value	Single treatment

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	
Skin	Slightly irritating	Equivalent to OECD 404	24 h	24; 72 hours	Rabbit	Experimental value	
Inhalation	Irritating	Human observation	15 minutes		Human	Weight of evidence	

(Z)-Octadec-9-enylamine, ethoxylated

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage; category 1					Literature study	
Skin	Irritating; category 2					Literature study	

Conclusion

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

Respiratory or skin sensitisation

NOVAFUEL POWERKLEEN

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

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	

acetone

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Human observation			Human	Literature	

ethanol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 429			Mouse (male)	Experimental value	
Inhalation (vapours)	Not sensitizing				Rat (male / female)	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			Guinea pig (male / female)	Experimental value	

Conclusion

Not classified as sensitizing for skin
Not classified as sensitizing for inhalation

Specific target organ toxicity

NOVAFUEL POWERKLEEN

No (test)data on the mixture available

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NOVAFUEL POWERKLEEN

Classification is based on the relevant ingredients

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/m ³		No effect	13 weeks (6h / day, 5 days / week)	Rat (male)	Experimental value

acetone

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOAEL	Equivalent to OECD 408	20 mg/l		No effect	13 week(s)	Mouse (male / female)	Experimental value
Inhalation (vapours)	NOAEC		19000 ppm		No effect	8 week(s)	Rat (male)	Weight of evidence
Inhalation (vapours)	Dose level	Human observation study	361 ppm	Central nervous system	neurotoxic effects	2 day(s)	Human	Epidemiological study

ethanol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	LOAEL	Equivalent to OECD 408	3160 mg/kg	Liver; kidney	No effect	7 weeks (daily) - 14 weeks (daily)	Rat (male)	Experimental value
Dermal								Data waiving
Inhalation (vapours)	LOAEC	Equivalent to OECD 453	1.3 mg/l air	Pituitary	Histology	12 month(s)	Rat (male / female)	Read-across

4-hydroxy-4-methylpentan-2-one

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 week(s)	Rat (male / female)	Experimental value
Inhalation (vapours)	NOAEC systemic effects	Equivalent to OECD 412	4685 mg/m ³ air		No adverse systemic effects	6 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation (vapours)	NOAEC local effects	Equivalent to OECD 412	≥ 4685 mg/m ³ air	Respiratory tract	No effect	6 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation (vapours)	NOEC	Equivalent to OECD 412	1041 mg/m ³ air		No adverse systemic effects	6 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

Conclusion

May cause damage to organs through prolonged or repeated exposure.

May cause drowsiness or dizziness.

Mutagenicity (in vitro)

NOVAFUEL POWERKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

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	

acetone

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

ethanol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	

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NOVAFUEL POWERKLEEN

4-hydroxy-4-methylpentan-2-one

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 473	CHL/IU cells		Experimental value	
Negative	OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value	

Mutagenicity (in vivo)

NOVAFUEL POWERKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

xylene

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

acetone

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative		13 week(s)	Mouse (male / female)		Literature

ethanol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Ambiguous (Oral (stomach tube))	Equivalent to OECD 478	5 days (1x / day)	Mouse (male)	General	Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

NOVAFUEL POWERKLEEN

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

acetone

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Dermal	NOEL	Other	79 mg	51 week(s)	Mouse (female)	No effect		Literature

ethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (vapours)	NOAEC	Equivalent to OECD 453	≥ 1.3 ppm	24 month(s)	Rat (male / female)	No carcinogenic effect		Read-across
Oral (diet)	NOAEL	Equivalent to OECD 451	> 3000 mg/kg bw/day	104 weeks (daily)	Rat (male / female)	No carcinogenic effect		Experimental value

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

NOVAFUEL POWERKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

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

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acetone

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	Equivalent to OECD 414	11000 ppm	6 days (gestation, daily) - 19 days (gestation, daily)	Rat (male / female)			Experimental value
Effects on fertility	NOAEL	Other	900 mg/kg bw/day	13 week(s)	Rat (male)	No effect		Literature

ethanol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Inhalation (vapours))	NOAEL	Equivalent to OECD 414	≥ 20000 ppm	20 days (7h / day)	Rat (male)	No effect	Stomach	Experimental value
Maternal toxicity (Inhalation (vapours))	NOAEL	Equivalent to OECD 414	16000 ppm	20 days (7h / day)	Rat (female)	No effect		Experimental value
Effects on fertility (Oral (drinking water))	NOAEL (P)	Equivalent to OECD 416	20700 mg/kg bw/day	18 week(s)	Mouse (male / female)	No effect		Experimental value

4-hydroxy-4-methylpentan-2-one

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	≥ 1000 mg/kg bw/day	15 days (gestation, daily)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	≥ 1000 mg/kg bw/day	15 days (gestation, daily)	Rat	No effect		Experimental value
Maternal toxicity	NOAEL	Equivalent to OECD 414	4106 mg/m ³ air	10 day(s)	Rat	No effect		Read-across
Effects on fertility (Oral (stomach tube))	NOAEL (P)	OECD 422	100 mg/kg bw/day	41 day(s) - 45 day(s)	Rat (male / female)	No effect		Experimental value

Conclusion

Not classified for reprotoxic or developmental toxicity

Aspiration hazard

Classification is based on the relevant ingredients
May be fatal if swallowed and enters airways.

Toxicity other effects

NOVAFUEL POWERKLEEN

acetone

Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
			Skin	Skin dryness or cracking			Literature study Skin

Chronic effects from short and long-term exposure

NOVAFUEL POWERKLEEN

Impairment of the nervous system. Impairment of the kidneys. Enlargement/affection of the liver.

SECTION 12: Ecological information

12.1. Toxicity

NOVAFUEL POWERKLEEN

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

NOVAFUEL POWERKLEEN

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

acetone

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	EU Method C.1	5540 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	LC50	Other	12600 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Nominal concentration
Toxicity algae and other aquatic plants	EC50		> 7000 mg/l	96 h	Selenastrum capricornutum	Static system	Fresh water	Experimental value; Nominal concentration
Long-term toxicity aquatic crustacea	NOEC	Equivalent to OECD 211	2212 mg/l	28 day(s)	Daphnia magna	Flow-through system	Fresh water	Experimental value

ethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	US EPA	15300 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value
Acute toxicity crustacea	LC50	ASTM E729-80	5012 mg/l	48 h	Ceriodaphnia dubia	Static system	Fresh water	Experimental value; Nominal concentration
Toxicity algae and other aquatic plants	ErC50	Equivalent to OECD 201	275 mg/l	3 day(s)	Chlorella vulgaris	Static system	Fresh water	Experimental value; Nominal concentration
Long-term toxicity fish	ChV	US EPA	245 mg/l	30 day(s)	Pisces		Fresh water	QSAR; Lethal
Long-term toxicity aquatic crustacea	NOEC		9.6 mg/l	9 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Nominal concentration
Toxicity aquatic micro-organisms	EC50		5800 mg/l	4 h	Paramecium caudatum	Static system	Fresh water	Experimental value; Nominal concentration

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; Lethal
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	EC50	OECD 201	> 1000 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
	NOEC	OECD 201	≥ 1000 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
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	EC50	OECD 209	> 1000 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; Respiration
	EC0		825 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value

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(Z)-Octadec-9-enylamine, ethoxylated

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	0.1 mg/l	96 h	Danio rerio	Semi-static system	Fresh water	Read-across; GLP
Acute toxicity crustacea	EC50	OECD 202	0.043 mg/l	48 h	Daphnia magna	Static system	Fresh water	Read-across; GLP
Toxicity algae and other aquatic plants	EC50	OECD 201	86.7 µg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Read-across; GLP

Conclusion

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

xylene

Biodegradation water

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

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	23.2 h	500000 /cm ³	Read-across

Biodegradation soil

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

acetone

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	90.9 %	28 day(s)	Experimental value

ethanol

Biodegradation water

Method	Value	Duration	Value determination
	84 %; Oxygen consumption	20 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	40 h	500000 /cm ³	Calculated value

4-hydroxy-4-methylpentan-2-one

Biodegradation water

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

(Z)-Octadec-9-enylamine, ethoxylated

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	74 %; GLP	28 day(s)	Read-across

Conclusion

Water

The surfactant(s) is/are biodegradable according to Regulation (EC) No 648/2004

12.3. Bioaccumulative potential

NOVAFUEL POWERKLEEN

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

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

acetone

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFWIN	3			Read-across

Log Kow

Method	Remark	Value	Temperature	Value determination
		-0.23		Test data

NOVAFUEL POWERKLEEN

ethanol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		1 - 4.5	72 h	Cyprinus carpio	Read-across

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		-0.35	24 °C	Experimental value

4-hydroxy-4-methylpentan-2-one

Log Kow

Method	Remark	Value	Temperature	Value determination
		-0.09		QSAR

(Z)-Octadec-9-enylamine, ethoxylated

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
Log BCF		1.37			Calculated value

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 123		3.4	25 °C	

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

12.4. Mobility in soil

xylene

(log) Koc

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

ethanol

(log) Koc

Parameter	Method	Value	Value determination
log Koc		0	Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	53.2 %		0.1 %	13.7 %	33.1 %	QSAR

4-hydroxy-4-methylpentan-2-one

(log) Koc

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

Conclusion

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

12.5. Results of PBT and vPvB assessment

Due to insufficient data no statement can be made whether the component(s) fulfil(s) the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.

12.6. Other adverse effects

NOVAFUEL POWERKLEEN

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)

ethanol

Groundwater

Groundwater pollutant

4-hydroxy-4-methylpentan-2-one

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

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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).

20 01 29* (separately collected fractions (except 15 01): detergents containing 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	1993
14.2. UN proper shipping name	
Proper shipping name	Flammable liquid, n.o.s. (acetone)
14.3. Transport hazard class(es)	
Hazard identification number	33
Class	3
Classification code	F1
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	274
Special provisions	601
Special provisions	640D
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	1993
14.2. UN proper shipping name	
Proper shipping name	Flammable liquid, n.o.s. (acetone)
14.3. Transport hazard class(es)	
Hazard identification number	33
Class	3
Classification code	F1
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	274
Special provisions	601
Special provisions	640D
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	1993
14.2. UN proper shipping name	
Proper shipping name	Flammable liquid, n.o.s. (acetone)
14.3. Transport hazard class(es)	
Class	3
Classification code	F1
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	no

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14.6. Special precautions for user

Special provisions	274
Special provisions	601
Special provisions	640D
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	1993
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14.2. UN proper shipping name

Proper shipping name	flammable liquid, n.o.s. (acetone)
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14.3. Transport hazard class(es)

Class	3
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14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Marine pollutant	-
Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
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, based on available data
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Air (ICAO-TI/IATA-DGR)

14.1. UN number

UN number	1993
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14.2. UN proper shipping name

Proper shipping name	Flammable liquid, n.o.s. (acetone)
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14.3. Transport hazard class(es)

Class	3
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14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	no
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14.6. Special precautions for user

Special provisions	A3
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Passenger and cargo transport

Limited quantities: maximum net quantity per packaging	1 L
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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
99.495 %	
834.762 g/l	

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

Ingredients according to Regulation (EC) No 648/2004 and amendments

≥30% aromatic hydrocarbons, <5% cationic surfactants

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
<ul style="list-style-type: none"> xylene acetone ethanol 4-hydroxy-4-methylpentan-2-one 	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	1. Shall not be used in: <ul style="list-style-type: none"> — 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

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	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.	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.'
· xylene · acetone · ethanol · 4-hydroxy-4-methylpentan-2-one	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, — "whoopie" 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 NOVAFUEL POWERKLEEN

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.
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National legislation The Netherlands NOVAFUEL POWERKLEEN

Waterbezwaarlijkheid	B (2); 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.

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ethanol

Huidopname (wettelijk)	Ethanol; H
SZW - Lijst van kankerverwekkende stoffen	Ethanol; Listed in SZW-list of carcinogenic substances
SZW - Lijst van voor de voortplanting giftige stoffen (ontwikkeling)	ethanol / ethylalcohol; 1A; May damage the unborn child.
SZW - Lijst van voor de voortplanting giftige stoffen (vruchtbaarheid)	ethanol / ethylalcohol; 1A; May damage fertility.
SZW - Lijst van voor de voortplanting giftige stoffen (borstvoeding)	ethanol / ethylalcohol; May cause harm to breastfed babies

National legislation France

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No data available

xylene

Risque de pénétration percutanée	Xylènes, isomères mixtes, purs; PP
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National legislation Germany

NOVAFUEL POWERKLEEN

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

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

acetone

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

ethanol

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

4-hydroxy-4-methylpentan-2-one

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

(Z)-Octadec-9-enylamine, ethoxylated

TA-Luft	5.2.5/I
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National legislation United Kingdom

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No data available

xylene

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

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No data available

xylene

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

acetone

TLV - Carcinogen	Acetone; A4
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ethanol

IARC - classification	1; Alcohol beverages
TLV - Carcinogen	Ethanol; 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:

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.

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H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
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.
H400 Very toxic to aquatic life.
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

M-factor

(Z)-Octadec-9-enylamine, ethoxylated	1	Acute	BIG
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Specific concentration limits CLP

ethanol	C ≥ 50 %	Eye Irrit. 2; H319	ECHA
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.