Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

1.1 Product identifier

Fuel Protect

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

Relevant identified uses of the substance or mixture:
Fuel additive

Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet

GB

LIQUI MOLY GmbH
Jerg-Wieland-Str. 4
89081 Ulm-Lehr
Tel.: (+49) 0731-1420-0
Fax: (+49) 0731-1420-88

LIQUI MOLY UK
1310 Solihull Parkway
Birmingham Business Park
B37 7YB Solihull
Tel: +44 121 796 5365

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

GB

Landspitali- The National University Hospital of Iceland, tel. +354 543 2222 or 112 (valid only for Iceland)

Telephone number of the company in case of emergencies:
+49 (0) 700 / 24 112 112 (LMR)
+1 872 5888271 (LMR)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Flam. Liq.	2	H225-Highly flammable liquid and vapour.
Eye Irrit.	2	H319-Causes serious eye irritation.
Skin Sens.	1	H317-May cause an allergic skin reaction.
Asp. Tox.	1	H304-May be fatal if swallowed and enters airways.
STOT SE	3	H336-May cause drowsiness or dizziness.

Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.

2.2 Label elements
Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H225-Highly flammable liquid and vapour. H319-Causes serious eye irritation. H317-May cause an allergic skin reaction. H304-May be fatal if swallowed and enters airways. H336-May cause drowsiness or dizziness. H412-Harmful to aquatic life with long lasting effects.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.
P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261-Avoid breathing vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves / protective clothing / eye protection / face protection.
P301+P310-IF SWALLOWED: Immediately call a POISON CENTER / doctor. P312-Call a POISON CENTRE / doctor if you feel unwell. P331-Do NOT induce vomiting.
P405-Store locked up.
P501-Dispose of contents / container to an approved waste disposal facility.

Propan-2-ol
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics
Maleic anhydride
Methyl salicylate

2.3 Other hazards
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substances
n.a.
3.2 Mixtures

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	
Registration number (REACH)	01-2119457273-39-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	918-481-9
CAS	---
content %	50-<75
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Asp. Tox. 1, H304

Propan-2-ol	
Registration number (REACH)	01-2119457558-25-XXXX
Index	603-117-00-0

EINECS, ELINCS, NLP, REACH-IT List-No.	200-661-7
CAS	67-63-0
content %	10-<25
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	
Registration number (REACH)	01-2119456620-43-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	926-141-6
CAS	---
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Asp. Tox. 1, H304

Hydrocarbons, C10, aromatics, >1% naphthalene	
Registration number (REACH)	01-2119463588-24-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	919-284-0
CAS	(64742-94-5)
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Carc. 2, H351 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

Alcohols, C16-18 and C18-unsatd., ethoxylated	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	---
CAS	68920-66-1
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Aquatic Chronic 2, H411

Methyl salicylate	
Registration number (REACH)	01-2119515671-44-XXXX
Index	607-749-00-8
EINECS, ELINCS, NLP, REACH-IT List-No.	204-317-7
CAS	119-36-8
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1B, H317 Repr. 2, H361d Aquatic Chronic 3, H412
Specific Concentration Limits and ATE	ATE (oral): 890 mg/kg

Naphthalene	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	---
Index	601-052-00-2
EINECS, ELINCS, NLP, REACH-IT List-No.	202-049-5
CAS	91-20-3
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Carc. 2, H351 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)
Specific Concentration Limits and ATE	ATE (oral): 490 mg/kg

Maleic anhydride	
Registration number (REACH)	---

Index	607-096-00-9
EINECS, ELINCS, NLP, REACH-IT List-No.	203-571-6
CAS	108-31-6
content %	<0,001
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH071 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372 (respiratory system) (as inhalation)
Specific Concentration Limits and ATE	Skin Sens. 1A, H317: >=0,001 % Skin Sens. 1A, H317: 0,001 % ATE (oral): 1090 mg/kg

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.
If, for example, the note P is applied for a hydrocarbon then this has already been taken into account for the classification named here.
Quote: "Note P - The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7)."
Article 4 of the regulation (EC) no. 1272/2008 (CLP regulation) was also observed and taken into account for the classification named here.
No classification is required for the mixture with Carc. 2, H351, as the naphthalene content in the product is < 1 %. No other ingredients with this classification are present.
The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

SECTION 4: First aid measures

4.1 Description of first aid measures
First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

Inhalation
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.
If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact
Remove contact lenses.
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion
Rinse the mouth thoroughly with water.
Do not induce vomiting. Consult doctor immediately.
Danger of aspiration.
In case of vomiting, keep head low so that the stomach content does not reach the lungs.

4.2 Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Water jet spray/foam/CO2/dry extinguisher

Unsuitable extinguishing media
High volume water jet

5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
Oxides of carbon
Toxic gases
Possible build up of explosive/highly flammable vapour/air mixture.

5.3 Advice for firefighters
For personal protective equipment see Section 8.
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
If applicable
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
6.1.1 For non-emergency personnel
In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.
Ensure sufficient ventilation, remove sources of ignition.
Avoid dust formation with solid or powder products.
Leave the danger zone if possible, use existing emergency plans if necessary.
Avoid inhalation, and contact with eyes or skin.

6.1.2 For emergency responders
See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions
If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent from entering drainage system.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up
Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.
Fill the absorbed material into lockable containers.

6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling
7.1.1 General recommendations
Ensure good ventilation.
Avoid inhalation of the vapours.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
Avoid contact with eyes or skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.
Observe special storage conditions.
Store product closed and only in original packing.
Not to be stored in gangways or stair wells.
Do not store with flammable or self-igniting materials.
Under all circumstances prevent penetration into the soil.
Protect from direct sunlight and warming.
Store in a well ventilated place.
Store cool.

7.3 Specific end use(s)

No information available at present.
Observe the instructions for good working practice and the recommendations for risk assessment.
Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries, depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):
800 mg/m3

GB **Chemical Name**	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	
WEL-TWA: 800 mg/m3	WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Hydrocarbons 0,1%/c (81 03 571) - Draeger - Hydrocarbons 2/a (81 03 581) - Compur - KITA-187 S (551 174)	
BMGV: ---	Other information: (OEL acc. to RCP-method, paragraphs 84-87, EH40)	

GB **Chemical Name**	Propan-2-ol	
WEL-TWA: 400 ppm (999 mg/m3)	WEL-STEL: 500 ppm (1250 mg/m3)	---
Monitoring procedures:	- Draeger - Alcohol 25/a i-Propanol (81 01 631) - Compur - KITA-122 SA(C) (549 277) - Compur - KITA-150 U (550 382) DFG (D) (Loesungsmittelgemische), DFG (E) (Solvent mixtures 6) - 2013, 2002 - EU - project BC/CEN/ENTR/000/2002-16 card 66-3 (2004) - NIOSH 1400 (ALCOHOLS I) - 1994 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996 - Draeger - Alcohol 100/a (CH 29 701)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	
WEL-TWA: 1200 mg/m3 (>=C7 normal and branched chain alkanes)	WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Hydrocarbons 0,1%/c (81 03 571) - Draeger - Hydrocarbons 2/a (81 03 581) - Compur - KITA-187 S (551 174)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Hydrocarbons, C10, aromatics, >1% naphthalene	
WEL-TWA: 500 mg/m3 (Aromatics)	WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Hydrocarbons 0,1%/c (81 03 571) - Draeger - Hydrocarbons 2/a (81 03 581) - Compur - KITA-187 S (551 174)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Naphthalene	
WEL-TWA: 500 mg/m3 (Aromatics) (WEL-TWA), 10 ppm (50 mg/m3) (EU)	WEL-STEL: ---	---
Monitoring procedures:	- Compur - KITA-153 U(C) (551 182) - NIOSH 5506 (POLYNUCLEAR AROMATIC HYDROCARBONS by HPLC) - 1998 - NIOSH 5515 (POLYNUCLEAR AROMATIC HYDROCARBONS by GC) - 1994 - OSHA 35 (Napthalene) - 1982	

BMGV: ---	Other information: ---

GB **Chemical Name**	Maleic anhydride		
WEL-TWA: 1 mg/m3	WEL-STEL: 3 mg/m3	---	
Monitoring procedures:	---		
BMGV: ---		Other information: Sen	

Propan-2-ol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	140,9	mg/l	
	Environment - marine		PNEC	140,9	mg/l	
	Environment - sediment, freshwater		PNEC	552	mg/kg dw	
	Environment - sediment, marine		PNEC	552	mg/kg dw	
	Environment - soil		PNEC	28	mg/kg dw	
	Environment - sewage treatment plant		PNEC	2251	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	140,9	mg/l	
	Environment - oral (animal feed)		PNEC	160	mg/kg feed	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	178	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	319	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	89	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	26	mg/kg bw/day	
Consumer	Human - oral	Short term, systemic effects	DNEL	51	mg/kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	888	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	500	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	1000	mg/m3	

Hydrocarbons, C10, aromatics, >1% naphthalene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - dermal	Long term, systemic effects	DNEL	7,5	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	32	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	7,5	mg/kg bw/day	
Consumer	Human - oral	Short term, systemic effects	DNEL	25,6	mg/kg bw/day	
Consumer	Human - inhalation	Long term	DNEL	143,5	mg/m3	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	226	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	384	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	160,23	mg/m3	

Workers / employees	Human - dermal	Long term, systemic effects	DNEL	12,5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	151	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	2,31	mg/m3	

Methyl salicylate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	20	µg/l	
	Environment - marine		PNEC	2	µg/l	
	Environment - sewage treatment plant		PNEC	140	mg/l	
	Environment - soil		PNEC	0,35	mg/kg dw	
	Environment - sediment, freshwater		PNEC	0,52	mg/kg dw	
	Environment - sediment, marine		PNEC	0,052	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	4	mg/m3	
Consumer	Human - inhalation	Short term, local effects	DNEL	213	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	3	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	1	mg/kg bw/day	
Consumer	Human - oral	Short term, local effects	DNEL	5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	17,5	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	285	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	6	mg/kg bw/day	

Naphthalene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	2,4	µg/l	
	Environment - marine		PNEC	0,24	µg/l	
	Environment - sewage treatment plant		PNEC	2,9	mg/l	
	Environment - sediment, freshwater		PNEC	0,0672	mg/kg dry weight	
	Environment - sediment, marine		PNEC	0,0672	mg/kg dry weight	
	Environment - soil		PNEC	0,0533	mg/kg dry weight	
	Environment - sporadic (intermittent) release		PNEC	0,02	mg/l	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	3,57	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	25	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	25	mg/m3	

Maleic anhydride

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,038	mg/l	
	Environment - marine		PNEC	0,0038	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	0,379	mg/l	
	Environment - sediment, freshwater		PNEC	0,296	mg/kg	
	Environment - sediment, marine		PNEC	0,0296	mg/kg	
	Environment - soil		PNEC	0,037	mg/kg	
	Environment - sewage treatment plant		PNEC	44,6	mg/l	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,05	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,06	mg/kg bw/day	
Consumer	Human - inhalation	Long term, local effects	DNEL	0,08	mg/m3	
Consumer	Human - oral	Short term, systemic effects	DNEL	0,1	mg/kg bw/day	
Consumer	Human - dermal	Short term, systemic effects	DNEL	0,1	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,1	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	0,081	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	0,2	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	0,081	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	0,2	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,04	mg/kg bw/d	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,04	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	0,04	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, local effects	DNEL	0,04	mg/kg bw/d	

GB - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |
| WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. EN 14042.
EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Chemical resistant protective gloves (EN ISO 374).
If applicable
Protective nitrile gloves (EN ISO 374).
Protective Viton® / fluoroelastomer gloves (EN ISO 374).
Protective gloves made of butyl (EN ISO 374).
Minimum layer thickness in mm:
0,4
Permeation time (penetration time) in minutes:
480
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
If the workplace limit value is exceeded.
Gas mask filter A (EN 14387), code colour brown
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Light yellow
Odour:	Aromatic
Melting point/freezing point:	There is no information available on this parameter.

Boiling point or initial boiling point and boiling range:	There is no information available on this parameter.
Flammability:	Flammable
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	12 °C
Auto-ignition temperature:	There is no information available on this parameter.
Decomposition temperature:	There is no information available on this parameter.
pH:	Mixture is non-soluble (in water).
Kinematic viscosity:	<=20,5 mm2/s (40°C)
Kinematic viscosity:	<5 mm2/s (40°C)
Solubility:	Insoluble
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	There is no information available on this parameter.
Density and/or relative density:	0,818 g/cm3 (20°C)
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

9.2 Other information

Explosives:	When using: development of explosive vapour/air mixture possible.
Oxidising liquids:	No

SECTION 10: Stability and reactivity

10.1 Reactivity
The product has not been tested.

10.2 Chemical stability
Stable with proper storage and handling.

10.3 Possibility of hazardous reactions
No dangerous reactions are known.

10.4 Conditions to avoid
Heating, open flame, ignition sources

10.5 Incompatible materials
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products
No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Possibly more information on health effects, see Section 2.1 (classification).

Fuel Protect						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>3160	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>4951	mg/m3	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Analogous conclusion
Serious eye damage/irritation:					OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion
Respiratory or skin sensitisation:					OECD 406 (Skin Sensitisation)	Not sensitizising, Analogous conclusion
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion
Germ cell mutagenicity:					OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:					OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Negative, Analogous conclusion
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Negative, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE):					OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Negative, Analogous conclusion
Aspiration hazard:						Yes
Symptoms:						unconsciousness, headaches, dizziness, mucous membrane irritation

Propan-2-ol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	4570-5840	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	12800-13900	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	> 25	mg/l/6h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Acute toxicity, by inhalation:	LC50	46600	mg/l/4h	Rat		Aerosol
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative

Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Chinese hamster
Carcinogenicity:						Negative
Reproductive toxicity:	NOAEL	500	mg/kg/d	Rat	OECD 416 (Two-generation Reproduction Toxicity Study)	Negative (oral, 7 weeks)
Reproductive toxicity:	NOAEL	853	mg/kg bw/d	Rat	OECD 415 (One-Generation Reproduction Toxicity Study)	Negative
Reproductive toxicity:	NOAEL	400	mg/kg bw/d	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Specific target organ toxicity - single exposure (STOT-SE):						STOT SE 3, H336, May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	900	mg/kg	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	5000	ppm	Rat		Vapours (OECD 451)
Aspiration hazard:						No
Symptoms:						breathing difficulties, unconsciousness, vomiting, headaches, fatigue, dizziness, nausea, eyes, reddened, watering eyes

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5000	mg/m3/8h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Analogous conclusion
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact), Analogous conclusion
Germ cell mutagenicity:				Mouse	in vivo	Negative
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion

Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Analogous conclusion
Carcinogenicity:					OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Analogous conclusion, Negative
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Analogous conclusion, Negative
Specific target organ toxicity - single exposure (STOT-SE):						Analogous conclusion, No indications of such an effect.
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	>=1000	mg/kg bw/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	
Aspiration hazard:						Yes
Symptoms:						drying of the skin., headaches, fatigue, dizziness, nausea, diarrhoea, vomiting

Hydrocarbons, C10, aromatics, >1% naphthalene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 420 (Acute Oral toxicity - Fixe Dose Procedure)	
Acute toxicity, by oral route:	LD50	6318	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Acute toxicity, by inhalation:	LC50	>4688	mg/m3/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours, Maximum achievable concentration.
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Analogous conclusion
Skin corrosion/irritation:						Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact), Analogous conclusion

Germ cell mutagenicity:				Mammalian	OECD 479 (Genetic Toxicology - In Vitro Sister Chromatid Exchange assay in Mammalian Cells)	Negative, Analogous conclusion
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusionChinese hamster
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative, Analogous conclusion
Carcinogenicity:						Classification regarding limited evidence of a carcinogenic effect is made on the basis of naphthalene content (CAS 91-20-3). The classification of mixtures shall be on the basis of actual naphthalene content.
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Negative, Analogous conclusion
Reproductive toxicity:					OECD 416 (Two-generation Reproduction Toxicity Study)	Negative, Analogous conclusion
Reproductive toxicity (Developmental toxicity):	NOAEL	>450	mg/kg	Rat	OECD 415 (One-Generation Reproduction Toxicity Study)	Negative, Analogous conclusion
Reproductive toxicity (Effects on fertility):				Rat	OECD 415 (One-Generation Reproduction Toxicity Study)	Negative, Analogous conclusion
Specific target organ toxicity - single exposure (STOT-SE):						Vapours may cause drowsiness and dizziness., STOT SE 3, H336
Specific target organ toxicity - repeated exposure (STOT-RE):					OECD 452 (Chronic Toxicity Studies)	Negative, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	750	mg/kg	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Negative, Analogous conclusion

Specific target organ toxicity - repeated exposure (STOT-RE), dermal:	NOAEL	495	mg/kg	Rat	OECD 411 (Subchronic Dermal Toxicity - 90-day Study)	Negative, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	1000	mg/m3	Rat	OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	Negative, Analogous conclusion
Aspiration hazard:						Yes
Symptoms:						drowsiness, headaches, drowsiness, dizziness

Alcohols, C16-18 and C18-unsatd., ethoxylated

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact), Analogous conclusion
Germ cell mutagenicity:				Rat	OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Aspiration hazard:						No

Methyl salicylate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	890	mg/kg			
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 491 (Short-time Exposure ... Chemicals Causing Eye Dam., Chem. Not Requir. Eye Dam. or Irrit.)	Eye Dam. 1

Symptoms:						acidosis, respiratory distress, annoyance, blisters, heart/circulatory disorders, coughing, cramps, stomach pain, intoxication, mucous membrane irritation, pain in chest, sweats, dizziness, visual disturbances, nausea and vomiting.

Naphthalene						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	490	mg/kg	Rat		
Acute toxicity, by oral route:	ATE	490	mg/kg			
Acute toxicity, by dermal route:	LD50	>2500	mg/kg	Rat		
Acute toxicity, by inhalation:	LD50	>0,4	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Respiratory or skin sensitisation:				Guinea pig		No (skin contact)
Reproductive toxicity:	NOAEL	120	mg/kg	Rabbit	OECD 414 (Prenatal Developmental Toxicity Study)	Female
Reproductive toxicity:	LOAEL	50	mg/kg	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Female
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	LOAEL	400	mg/kg	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	
Specific target organ toxicity - repeated exposure (STOT-RE), dermal:	NOAEL	1000	mg/kg	Rat	OECD 411 (Subchronic Dermal Toxicity - 90-day Study)	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	LOAEL	0,011	mg/l	Rat	OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	Vapours
Symptoms:						lack of appetite, ataxia, breathing difficulties, unconsciousness, diarrhoea, cornea opacity, headaches, cramps, gastrointestinal disturbances, mucous membrane irritation, dizziness, nausea and vomiting., sweating, Reddening, eyes, reddened

Maleic anhydride						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	1090	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by oral route:	ATE	1090	mg/kg			
Acute toxicity, by dermal route:	LD50	2620	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>4,35	mg/l/1h	Mouse		
Skin corrosion/irritation:				Human being		Corrosive
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Corr. 1B
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Dam. 1
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Sensitising (skin contact)
Respiratory or skin sensitisation:				Rat		Sensitising (inhalation)
Germ cell mutagenicity:					bacterial	References, Negative
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Rat	OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative
Carcinogenicity:	NOAEL	>100	mg/kg bw/d	Rat		oral
Reproductive toxicity:	NOAEC	650	mg/kg bw/d	Rat		
Reproductive toxicity:	NOAEL	55	mg/kg	Rat	OECD 416 (Two-generation Reproduction Toxicity Study)	
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	10	mg/kg/d	Rat	OECD 452 (Chronic Toxicity Studies)	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEC	3,3	mg/m3	Rat	OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	Vapours
Symptoms:						asthmatic symptoms, breathing difficulties, respiratory distress, burning of the membranes of the nose and throat, blisters, coughing, headaches, gastrointestinal disturbances, mucous membrane irritation, watering eyes, nausea

11.2. Information on other hazards

Fuel Protect						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

Endocrine disrupting properties:						Does not apply to mixtures.
Other information:						No other relevant information available on adverse effects on health.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Other information:						Repeated exposure may cause skin dryness or cracking.

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

Fuel Protect							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							According to the recipe, contains no AOX.
Other information:							DOC-elimination degree(complexing organic substance)>= 80%/28d: No

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	NOELR	28d	0,101	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	LL50	96h	>1000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EL50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOELR	21d	0,176	mg/l	Daphnia magna		

12.1. Toxicity to algae:	EL50	72h	>1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	80-89,8	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		10-2500				High
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Other organisms:	EL50	48h	>1000	mg/l	Tetrahymen pyriformis		
Water solubility:							Product floats on the water surface.

Propan-2-ol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>100	mg/l	Leuciscus idus		
12.1. Toxicity to fish:	LC50	96h	1400	mg/l	Lepomis macrochirus		
12.1. Toxicity to daphnia:	EC50	48h	2285	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	EC50	16d	141	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	72h	>100	mg/l	Desmodesmus subspicatus		
12.2. Persistence and degradability:		21d	95	%		OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	Readily biodegradable
12.2. Persistence and degradability:			99,9	%		OECD 303 A (Simulation Test - Aerobic Sewage Treatment - Activated Sludge Units)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		0,05			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	Slight
12.3. Bioaccumulative potential:	BCF		3,2				Low
12.4. Mobility in soil:	Koc		1,1				Expert judgement
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50		>1000	mg/l	activated sludge		
Other organisms:	IC50	3d	2104	mg/l	Lactuca sativa		
Other information:	ThOD		2,4	g/g			
Other information:	BOD5		53	%			
Other information:	COD		96	%			References
Other information:	COD		2,3	g/g			
Other information:	BOD		1171	mg/g			

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOELR	28d	0,17	mg/l	Oncorhynchus mykiss	QSAR	

12.1. Toxicity to fish:	LL50	96h	>1000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOELR	21d	1,22	mg/l	Daphnia magna	QSAR	
12.1. Toxicity to daphnia:	EL50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOELR	72h	1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	69	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		6-8				High
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Water solubility:							Insoluble

Hydrocarbons, C10, aromatics, >1% naphthalene

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	2-5	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,48	mg/l	Daphnia magna		Analogous conclusion
12.1. Toxicity to daphnia:	EC50	48h	3-10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOELR	72h	2,5	mg/l	Pseudokirchneriella subcapitata		
12.1. Toxicity to algae:	EC50	72h	1-3	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	58	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Analogous conclusion, Not readily but inherent biodegradable.
12.3. Bioaccumulative potential:	Log Pow		2,8-6,5				High
12.3. Bioaccumulative potential:	BCF		<100				Low
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Alcohols, C16-18 and C18-unsatd., ethoxylated

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	108	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EL50	48h	51	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

12.1. Toxicity to algae:	EL50	72h	>10	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	>60	%	activated sludge	OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable

Methyl salicylate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	19,8	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	870	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EC50	48h	28	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to algae:	EC50	72h	27	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,79	mg/l	Desmodesmus subspicatus	Regulation (EC) 440/2008 C.3 (FRESHWATER ALGAE AND CYANOBACTERIA, GROWTH INHIBITION TEST)	
12.2. Persistence and degradability:	DOC	28d	98,4	%			Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		2,5				
12.4. Mobility in soil:	Log Koc		2,346				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	16h	380	mg/l	Pseudomonas putida		

Naphthalene

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1,99	mg/l	Pimephales promelas		Does not conform with EU classification.
12.1. Toxicity to fish:	LC50	96h	0,51	mg/l			
12.1. Toxicity to fish:	LC50	96h	0,11	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	NOEC/NOEL	>60d	0,6	mg/l	Daphnia pulex		
12.1. Toxicity to daphnia:	EC50	48h	1,6-24,1	mg/l	Daphnia magna		
12.1. Toxicity to algae:	LC50	4h	2,96	mg/l	Selenastrum capricornutum		
12.1. Toxicity to algae:	ErC50	72h	0,4	mg/l	Skeletonema costatum		
12.2. Persistence and degradability:		28d	2	%			Not readily biodegradable
12.3. Bioaccumulative potential:	BCF	28d	40-300				Lowfish
12.4. Mobility in soil:	Koc		817				

12.4. Mobility in soil:	Koc		240-1300				
Other information:	BOD5		0	%			
Other information:	COD		22	%			
Other information:	Log Pow		3,3				

Maleic anhydride							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	75	mg/l	Oncorhynchus mykiss		EPA-660/3-75-009
12.1. Toxicity to fish:	LC50	96h	75	mg/l	Lepomis macrochirus		EPA-660/3-75-009
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	10	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	EC50	48h	37,9	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	65,78	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC10	72h	10,4	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	29	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	73-81	%	activated sludge	OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	Hydrolysis, Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-2,61			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10	18h	44,6	mg/l	Pseudomonas putida	DIN 38412 T.8	References

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
07 07 04 other organic solvents, washing liquids and mother liquors
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.

For contaminated packing material

Pay attention to local and national official regulations.
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.

Residues may present a risk of explosion.

SECTION 14: Transport information

General statements

Transport by road/by rail (ADR/RID)

14.1. UN number or ID number:	1993
14.2. UN proper shipping name:	
UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOPROPYL ALCOHOL)	
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
14.5. Environmental hazards:	Not applicable
Tunnel restriction code:	D/E
Classification code:	F1
LQ:	1 L
Transport category:	2



Transport by sea (IMDG-code)

14.1. UN number or ID number:	1993
14.2. UN proper shipping name:	
UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOPROPYL ALCOHOL)	
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
14.5. Environmental hazards:	Not applicable
Marine Pollutant:	Not applicable
EmS:	F-E, S-E



Transport by air (IATA)

14.1. UN number or ID number:	1993
14.2. UN proper shipping name:	
UN 1993 Flammable liquid, n.o.s. (ISOPROPYL ALCOHOL)	
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
14.5. Environmental hazards:	Not applicable



14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

14.7. Maritime transport in bulk according to IMO instruments

Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:
Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
Regulation (EC) No 1907/2006, Annex XVII
Naphthalene
Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P5c		5000	50000

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 85,53 %

Observe incident regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 8
Employee training in handling dangerous goods is required.
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Flam. Liq. 2, H225	Classification based on test data.
Eye Irrit. 2, H319	Classification according to calculation procedure.
Skin Sens. 1, H317	Classification according to calculation procedure.
Asp. Tox. 1, H304	Classification according to calculation procedure.
STOT SE 3, H336	Classification according to calculation procedure.
Aquatic Chronic 3, H412	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.
H361d Suspected of damaging the unborn child.
H225 Highly flammable liquid and vapour.
H372 Causes damage to organs through prolonged or repeated exposure by inhalation.
H317 May cause an allergic skin reaction.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.
EUH071 Corrosive to the respiratory tract.

Flam. Liq. — Flammable liquid
Eye Irrit. — Eye irritation
Skin Sens. — Skin sensitization
Asp. Tox. — Aspiration hazard
STOT SE — Specific target organ toxicity - single exposure - narcotic effects
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Carc. — Carcinogenicity

Skin Irrit. — Skin irritation
Acute Tox. — Acute toxicity - oral
Eye Dam. — Serious eye damage
Repr. — Reproductive toxicity
Aquatic Acute — Hazardous to the aquatic environment - acute
Skin Corr. — Skin corrosion
Resp. Sens. — Respiratory sensitization
STOT RE — Specific target organ toxicity - repeated exposure

Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.
Guidelines for the preparation of safety data sheets as amended (ECHA).
Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).
Safety data sheets for the constituent substances.
ECHA Homepage - Information about chemicals.
GESTIS Substance Database (Germany).
German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).
EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.
National Lists of Occupational Exposure Limits for each country as amended.
Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ASTM ASTM International (American Society for Testing and Materials)
ATE Acute Toxicity Estimate
BAM Bundesanstalt für Materialforschung und -prüfung (= Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BSEF The International Bromine Council
CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)
EC European Community
ECHA European Chemicals Agency
ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ErCx, EμCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)
etc. et cetera
EU European Union
EVAL Ethylene-vinyl alcohol copolymer
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
Koc Adsorption coefficient of organic carbon in the soil

Kow octanol-water partition coefficient
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC (Code) International Bulk Chemical (Code)
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform Chemical Information Database
IUPAC International Union for Pure Applied Chemistry
LC50 Lethal Concentration to 50 % of a test population
LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
Log Koc Logarithm of adsorption coefficient of organic carbon in the soil
Log Kow, Log Pow Logarithm of octanol-water partition coefficient
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
mg/kg bw mg/kg body weight
mg/kg bw/d, mg/kg bw/day mg/kg body weight/day
mg/kg dw mg/kg dry weight
mg/kg wwt mg/kg wet weight
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute for Occupational Safety and Health (USA)
NLP No-longer-Polymer
NOEC, NOEL No Observed Effect Concentration/Level
OECD Organisation for Economic Co-operation and Development
org. organic
OSHA Occupational Safety and Health Administration (USA)
PBT persistent, bioaccumulative and toxic
PE Polyethylene
PNEC Predicted No Effect Concentration
ppm parts per million
PVC Polyvinylchloride
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 6/7/8/9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SVHC Substances of Very High Concern
Tel. Telephone
TOC Total organic carbon
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
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