Safety data sheet
according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

Auto Duft Speed Lemon

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

Relevant identified uses of the substance or mixture:
Air-Freshener

Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet

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

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:

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.	3	H226-Flammable liquid and vapour.
Eye Irrit.	2	H319-Causes serious eye irritation.
Skin Irrit.	2	H315-Causes skin irritation.
Skin Sens.	1	H317-May cause an allergic skin reaction.
Aquatic Chronic	2	H411-Toxic to aquatic life with long lasting effects.

2.2 Label elements

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

Warning

H226-Flammable liquid and vapour. H319-Causes serious eye irritation. H315-Causes skin irritation. H317-May cause an allergic skin reaction. H411-Toxic 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 / eye protection / face protection.
P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314-Get medical advice / attention if you feel unwell.
P501-Dispose of contents / container to an approved waste disposal facility.

Geraniol
(R)-p-mentha-1,8-diene
Citral
Geranyl acetate
2-methylundecanal
Linalool
Pin-2(10)-ene
(Z)-3,4,5,6,6-pentamethylhept-3-en-2-one
Caryophyllene
Nerol
Pin-2(3)-ene

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

Linalool	
Registration number (REACH)	01-2119474016-42-XXXX
Index	603-235-00-2
EINECS, ELINCS, NLP, REACH-IT List-No.	201-134-4
CAS	78-70-6
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317

3a,4,5,6,7,7a-hexahydro-4,7-methanoinden-6-yl acetate	
Registration number (REACH)	01-2119934491-39-XXXX

Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	226-501-6
CAS	5413-60-5
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Chronic 3, H412

2,6-dimethyloct-7-en-2-ol	
Registration number (REACH)	01-2119457274-37-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	242-362-4
CAS	18479-58-8
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319

(R)-p-mentha-1,8-diene	
Registration number (REACH)	01-2119529223-47-XXXX
Index	601-096-00-2
EINECS, ELINCS, NLP, REACH-IT List-No.	227-813-5
CAS	5989-27-5
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412

Decanal	
Registration number (REACH)	01-2119967771-26-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-957-4
CAS	112-31-2
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Irrit. 2, H319 Aquatic Chronic 3, H412

Nonanal	
Registration number (REACH)	01-2119969440-35-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-688-5
CAS	124-19-6
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Chronic 3, H412

Geranyl acetate	
Registration number (REACH)	01-2119973480-35-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-341-5
CAS	105-87-3
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412

Citral	
Registration number (REACH)	01-2119462829-23-XXXX
Index	605-019-00-3
EINECS, ELINCS, NLP, REACH-IT List-No.	226-394-6
CAS	5392-40-5
content %	1-<5

Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317

Geraniol	
Registration number (REACH)	01-2119552430-49-XXXX
Index	603-241-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	203-377-1
CAS	106-24-1
content %	1-<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317

2-methylundecanal	
Registration number (REACH)	01-2119969443-29-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-765-0
CAS	110-41-8
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

Nerol	
Registration number (REACH)	01-2119983244-33-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	203-378-7
CAS	106-25-2
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317

Pin-2(10)-ene	
Registration number (REACH)	01-2119519230-54-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-872-5
CAS	127-91-3
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

2,6-di-tert-butyl-p-cresol	
Registration number (REACH)	01-2119555270-46-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-881-4
CAS	128-37-0
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

Diphenyl ether	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119472545-33-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	202-981-2
CAS	101-84-8
content %	0,1-<1

Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Irrit. 2, H319 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412

Caryophyllene	
Registration number (REACH)	01-2120745237-53-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	201-746-1
CAS	87-44-5
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Sens. 1B, H317 Asp. Tox. 1, H304

p-mentha-1,4-diene	
Registration number (REACH)	01-2120780478-40-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	202-794-6
CAS	99-85-4
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Repr. 2, H361 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran	
Registration number (REACH)	01-2119488227-29-XXXX
Index	603-212-00-7
EINECS, ELINCS, NLP, REACH-IT List-No.	214-946-9
CAS	1222-05-5
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

(Z)-3,4,5,6,6-pentamethylhept-3-en-2-one	
Registration number (REACH)	01-2119980043-42-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	279-822-9
CAS	81786-73-4
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Sens. 1B, H317 Aquatic Chronic 2, H411

p-cymene	
Registration number (REACH)	01-2120807345-59-XXXX
Index	601-094-00-1
EINECS, ELINCS, NLP, REACH-IT List-No.	202-796-7
CAS	99-87-6
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Specific Concentration Limits and ATE	ATE (as inhalation, Dusts or mist): 0,5 mg/l/4h ATE (as inhalation, Vapours): 3 mg/l/4h

Camphene	
Registration number (REACH)	01-2119446293-40-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	201-234-8
CAS	79-92-5
content %	0,1-<1

Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Sol. 1, H228 Eye Irrit. 2, H319 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

Pin-2(3)-ene	
Registration number (REACH)	01-2119519223-49-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	201-291-9
CAS	80-56-8
content %	0,1-<0,5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)
Specific Concentration Limits and ATE	ATE (oral): 500 mg/kg

7-methyl-3-methyleneocta-1,6-diene	
Registration number (REACH)	01-2119514321-56-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-622-5
CAS	123-35-3
content %	0,1-<0,5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Asp. Tox. 1, H304 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411

Impurities, test data and additional information may have been taken into account in classifying and labelling the product.
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.
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
Supply person with fresh air and consult doctor according to symptoms.

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
Typically no exposure pathway.
Call doctor immediately - have Data Sheet available.
Do not induce vomiting.

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
Adapt to the nature and extent of fire.
Water jet spray/foam/CO2/dry extinguisher
Unsuitable extinguishing media
None known
5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
Oxides of carbon
Toxic gases
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
Full protection, if necessary.
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.
Ensure sufficient supply of air.
Remove possible causes of ignition - do not smoke.
Avoid 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
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent from entering drainage system.
6.3 Methods and material for containment and cleaning up
Pick up mechanically and dispose of according to Section 13.
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.
Remove possible causes of ignition - do not smoke.
Avoid contact with eyes or skin.
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.
Store product closed and only in original packing.
Not to be stored in gangways or stair wells.
Observe special storage conditions.
Do not store with flammable or self-igniting materials.
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

GB **Chemical Name**	2,6-di-tert-butyl-p-cresol	
WEL-TWA: 10 mg/m3	WEL-STEL: ---	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Diphenyl ether	
WEL-TWA: 1 ppm (7 mg/m3) (WEL-TWA, EU)	WEL-STEL: 2 ppm (14 mg/m3) (WEL-STEL, EU)	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

Linalool

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,2	mg/l	
	Environment - marine		PNEC	0,02	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	2	mg/l	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sediment, freshwater		PNEC	2,22	mg/kg dw	
	Environment - sediment, marine		PNEC	0,222	mg/kg dw	
	Environment - soil		PNEC	0,3	mg/kg	
	Environment - soil		PNEC	0,327	mg/kg dw	
Consumer	Human - dermal	Short term, local effects	DNEL	15	mg/kg bw/d	
Consumer	Human - dermal	Long term, local effects	DNEL	15	mg/kg bw/d	
Consumer	Human - dermal	Short term, systemic effects	DNEL	2,5	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1,25	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,2	mg/kg bw/d	
Consumer	Human - oral	Short term, systemic effects	DNEL	1,2	mg/kg bw/d	

Consumer	Human - inhalation	Short term, systemic effects	DNEL	4,1	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,7	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2,5	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, local effects	DNEL	15	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	5	mg/kg bw/d	
Workers / employees	Human - dermal	Long term, local effects	DNEL	15	mg/kg bw/d	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	16,5	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2,8	mg/m3	

2,6-dimethyloct-7-en-2-ol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,278	mg/l	
	Environment - marine		PNEC	0,278	mg/l	
	Environment - soil		PNEC	0,103	mg/kg	
	Environment - sediment, freshwater		PNEC	0,594	mg/kg	
	Environment - sediment, marine		PNEC	0,0594	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	21,7	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	12,5	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	12,5	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	73,5	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	20,8	mg/kg bw/d	

(R)-p-mentha-1,8-diene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	14	µg/l	
	Environment - marine		PNEC	1,4	µg/l	
	Environment - sewage treatment plant		PNEC	1,8	mg/l	
	Environment - sediment, freshwater		PNEC	3,85	mg/kg dry weight	
	Environment - sediment, marine		PNEC	0,3851	mg/kg dry weight	
	Environment - soil		PNEC	0,763	mg/kg dry weight	
	Environment - oral (animal feed)		PNEC	133	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	66,7	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	9,5	mg/kg body weight/day	

Decanal

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,00117	mg/l	
	Environment - marine		PNEC	0,000117	mg/l	
	Environment - sewage treatment plant		PNEC	3,16	mg/l	
	Environment - sporadic (intermittent) release		PNEC	0,0117	mg/l	
	Environment - sediment, freshwater		PNEC	0,097	mg/kg	
	Environment - sediment, marine		PNEC	0,0097	mg/kg	
	Environment - soil		PNEC	0,019	mg/kg	
	Environment - oral (animal feed)		PNEC	313	mg/kg	
	Human - dermal	Long term, local effects	DNEL	17,62	mg/cm2	
Consumer	Human - dermal	Short term, systemic effects	DNEL	7,05	mg/kg bw/d	
Consumer	Human - dermal	Short term, local effects	DNEL	17,62	mg/cm2	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	6,1	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	3,5	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	3,5	mg/kg bw/d	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	12,26	mg/m3	
Consumer	Human - inhalation	Long term, local effects	DNEL	15,32	mg/m3	
Consumer	Human - inhalation	Short term, local effects	DNEL	30,65	mg/m3	
Workers / employees	Human - dermal	Long term, local effects	DNEL	17,62	mg/cm2	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	24,9	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	7,05	mg/kg bw/d	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	49,71	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	62,14	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	124,3	mg/m3	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	14,1	mg/kg bw/d	
Workers / employees	Human - dermal	Long term, local effects	DNEL	8,81	mg/cm2	
Workers / employees	Human - dermal	Short term, local effects	DNEL	35,24	mg/cm2	

Geranyl acetate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	3,72	mg/l	
	Environment - marine		PNEC	0,372	mg/l	
	Environment - periodic release		PNEC	37,2	mg/l	
	Environment - sewage treatment plant		PNEC	8	mg/l	
	Environment - sediment, freshwater		PNEC	0,442	mg/kg	
	Environment - sediment, marine		PNEC	0,0442	mg/kg	

	Environment - soil		PNEC	0,0859	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	15,4	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	17,75	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	8,9	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	62,59	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	35,5	mg/kg	

Citral

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,00678	mg/l	
	Environment - marine		PNEC	0,000678	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	0,0678	mg/l	
	Environment - sewage treatment plant		PNEC	1,6	mg/l	
	Environment - sediment, freshwater		PNEC	0,125	mg/kg	
	Environment - sediment, marine		PNEC	0,0125	mg/kg	
	Environment - soil		PNEC	0,0209	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	2,7	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,6	mg/kg	
Consumer	Human - dermal	Long term, local effects	DNEL	0,14	mg/cm2	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	1,7	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	9	mg/m3	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,14	mg/cm2	

Geraniol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,011	mg/l	
	Environment - marine		PNEC	0,001	mg/l	
	Environment - sediment, freshwater		PNEC	0,115	mg/kg	
	Environment - sediment, marine		PNEC	0,011	mg/kg	
	Environment - sewage treatment plant		PNEC	0,7	mg/l	
	Environment - soil		PNEC	0,017	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	7,5	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	13,75	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	47,8	mg/m3	
Consumer	Human - dermal	Long term, local effects	DNEL	11,8	mg/cm2	

Workers / employees	Human - dermal	Long term, local effects	DNEL	11,8	mg/cm2	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	12,5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	161	mg/m3	

2-methylundecanal						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,18	µg/l	
	Environment - marine		PNEC	0,018	µg/l	
	Environment - sporadic (intermittent) release		PNEC	1,8	µg/l	
	Environment - sewage treatment plant		PNEC	10	mg/m3	
	Environment - sediment, freshwater		PNEC	0,072	mg/kg dw	
	Environment - sediment, marine		PNEC	0,00722	mg/kg dw	
	Environment - soil		PNEC	0,014	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	14,5	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	4,2	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	4,2	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	59	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	8,3	mg/kg bw/day	

Nerol						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1,09	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,38	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,38	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,76	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	4,4	mg/m3	

2,6-di-tert-butyl-p-cresol						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - soil		PNEC	1,04	mg/kg wwt	
	Environment - sewage treatment plant		PNEC	0,017	mg/l	
	Environment - sediment		PNEC	1,29	mg/kg wwt	
	Environment - marine		PNEC	0,02	µg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,99	µg/l	
	Environment - freshwater		PNEC	0,199	µg/l	

	Environment - oral (animal feed)		PNEC	16,67	mg/kg feed	
	Environment - soil		PNEC	0,054	mg/kg dw	
	Environment - sediment, freshwater		PNEC	0,458	mg/kg dw	
	Environment - sediment, marine		PNEC	0,046	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,435	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,25	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,25	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1,76	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,5	mg/kg bw/day	

Diphenyl ether						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0	mg/l	
	Environment - marine		PNEC	0	mg/l	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sediment, freshwater		PNEC	0,093	mg/kg	
	Environment - sediment, marine		PNEC	0,009	mg/kg	
	Environment - soil		PNEC	0,018	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	59	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	7	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	14	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	25	mg/kg bw/d	

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	4,4	µg/l	
	Environment - marine		PNEC	0,44	µg/l	
	Environment - water, sporadic (intermittent) release		PNEC	47	µg/l	
	Environment - sewage treatment plant		PNEC	1	mg/l	
	Environment - sediment, freshwater		PNEC	2	mg/kg	
	Environment - sediment, marine		PNEC	0,394	mg/kg	
	Environment - soil		PNEC	0,31	mg/kg	
	Environment - oral (animal feed)		PNEC	3,3	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1,3	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	14,43	mg/kg bw/d	

Consumer	Human - oral	Long term, systemic effects	DNEL	0,75	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	5,29	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	28,85	mg/kg bw/d	

Camphene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,001	mg/l	
	Environment - marine		PNEC	0	mg/l	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sediment, freshwater		PNEC	0,026	mg/l	
	Environment - sediment, marine		PNEC	0,003	mg/l	
	Environment - soil		PNEC	0,021	mg/l	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	54,3	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,1	mg/kg	
Consumer	Human - dermal	Short term, systemic effects	DNEL	0,625	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	110,19	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	110,19	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,21	mg/kg	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	1,25	mg/kg	

Pin-2(3)-ene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,606	µg/l	
	Environment - marine		PNEC	0,061	µg/l	
	Environment - sediment, freshwater		PNEC	0,157	mg/kg	
	Environment - sediment, marine		PNEC	0,0157	mg/kg	
	Environment - sewage treatment plant		PNEC	0,2	mg/l	
	Environment - soil		PNEC	0,0317	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	3,8	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,54	mg/kg body weight/day	

2-(2-Ethoxyethoxy)ethanol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	1,98	mg/l	
	Environment - marine		PNEC	0,198	mg/l	

	Environment - sewage treatment plant		PNEC	500	mg/l	
	Environment - soil		PNEC	0,34	mg/kg	
	Environment - sediment, freshwater		PNEC	7,32	mg/kg	
	Environment - sediment, marine		PNEC	0,732	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	37	mg/m3	
Consumer	Human - inhalation	Long term, local effects	DNEL	18	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	25	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	50	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	61	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	30	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	83	mg/kg bw/d	

Oxydipropanol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,1	mg/l	
	Environment - marine		PNEC	0,01	mg/l	
	Environment - sporadic (intermittent) release		PNEC	1	mg/l	
	Environment - sewage treatment plant		PNEC	1000	mg/l	
	Environment - sediment, freshwater		PNEC	0,238	mg/kg	
	Environment - sediment, marine		PNEC	0,0238	mg/kg	
	Environment - soil		PNEC	0,0253	mg/kg	
	Environment - oral (animal feed)		PNEC	313	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	51	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	70	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	24	mg/kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	84	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	238	mg/m3	

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 or 2019/1831/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE). |

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:
Normally not necessary.

Skin protection - Hand protection:
Normally not necessary.
Protective hand cream recommended.
With long-term contact:
If applicable
Protective nitrile gloves (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.

Skin protection - Other:
Usual protective working garments

Respiratory protection:
Normally not necessary.

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 20°C

Colour:	Yellow
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	219 °C
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:	44 °C
Auto-ignition temperature:	195 °C
Decomposition temperature:	There is no information available on this parameter.
pH:	There is no information available on this parameter.
Kinematic viscosity:	14,58 cP (20°C, Dynamic viscosity)
Solubility:	There is no information available on this parameter.
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	170,03 Pa (50°C)
Vapour pressure:	26 Pa (20°C)
Density and/or relative density:	0,952 g/cm3
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

9.2 Other information

Explosives:	There is no information available on this parameter.
Oxidising liquids:	There is no information available on this parameter.

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
See also section 7.
Heating, open flame, ignition sources

10.5 Incompatible materials
Avoid contact with strong oxidizing agents.
Avoid contact with strong alkalis.
Avoid contact with strong acids.

10.6 Hazardous decomposition products
See also section 5.2
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).

Auto Duft Speed Lemon						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:	ATE	>20	mg/l/4h			calculated value, Vapours
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			calculated value, Aerosol
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.

Linalool

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	2790	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	5610	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	> 3,2	mg/l	Mouse		Vapours 90 min
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1B
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative Chinese hamster
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative

3a,4,5,6,7,7a-hexahydro-4,7-methanoinden-6-yl acetate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	5000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
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)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant

2,6-dimethyloct-7-en-2-ol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3600	mg/kg	Rat		Analogous conclusion
Acute toxicity, by dermal route:	LD50	> 5000	mg/kg	Rabbit		Analogous conclusion
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2, Analogous conclusion
Serious eye damage/irritation:				Rabbit		Eye Irrit. 2
Respiratory or skin sensitisation:				Human being	(Patch-Test)	Not sensitizising
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative

(R)-p-mentha-1,8-diene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	> 2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	Female
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)	
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1B
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:					OECD 479 (Genetic Toxicology - In Vitro Sister Chromatid Exchange assay in Mammalian Cells)	Negative Chinese hamster
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative Chinese hamster
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						diarrhoea, rash, itching, gastrointestinal disturbances, mucous membrane irritation, nausea and vomiting.
Symptoms:						diarrhoea, rash, itching, gastrointestinal disturbances, mucous membrane irritation, nausea and vomiting.

Decanal

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>3320	mg/kg	Rat		
Acute toxicity, by oral route:	LD50	3730	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	4173	mg/kg	Rabbit		
Acute toxicity, by dermal route:	LD50	5040	mg/kg	Rabbit		
Serious eye damage/irritation:						Eye Irrit. 2
Respiratory or skin sensitisation:				Human being		No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Reproductive toxicity:				Rat		Negative

Symptoms:						drowsiness, headaches, mucous membrane irritation, dizziness
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	LD50	20000	mg/kg	Rabbit		

Geranyl acetate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	6330	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	5460	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						mucous membrane irritation

Citral

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3450	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	2250	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		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)	Yes (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Chinese hamster
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Chinese hamster
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Symptoms:						respiratory distress, drowsiness, coughing, headaches, gastrointestinal disturbances, mucous membrane irritation, nausea

Geraniol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3600	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		

Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Dam. 1
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	NegativeChinese hamster
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negativemale
Symptoms:						respiratory distress, coughing, mucous membrane irritation

2-methylundecanal

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>10000	mg/kg	Rabbit		
Skin corrosion/irritation:				Guinea pig		Skin Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Skin Sens. 1B

Pin-2(10)-ene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	4700	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Irritant24 h
Respiratory or skin sensitisation:		12	%	Human being		No (skin contact)solvent: petrolatum
Aspiration hazard:						Yes
Symptoms:						diarrhoea, vomiting, disturbed heart rhythm, headaches, mucous membrane irritation, dizziness

2,6-di-tert-butyl-p-cresol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2930	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)	Not irritant
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Not irritant
Respiratory or skin sensitisation:				Human being		No (skin contact)
Germ cell mutagenicity:					(Ames-Test)	Negative

Germ cell mutagenicity:				Mouse	in vivo	Negative
Carcinogenicity:	NOAEL	247	mg/kg bw/d	Rat		Negative
Reproductive toxicity (Developmental toxicity):	NOAEL	100	mg/kg	Rat		
Reproductive toxicity (Effects on fertility):	NOAEL	500	mg/kg	Rat		
Specific target organ toxicity - repeated exposure (STOT-RE):	NOEL	25	mg/kg	Rat		(28 d)
Aspiration hazard:						No
Symptoms:						mucous membrane irritation

Diphenyl ether						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	2830	mg/kg	Rat		calculated value
Acute toxicity, by dermal route:	LD50	>7940	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:				Rabbit		Eye Irrit. 2

Caryophyllene						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:		>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Skin corrosion/irritation:					OECD 439 (In Vitro Skin Irritation - Reconstructed Human Epidermis Test Method)	Not irritant
Skin corrosion/irritation:				Human being	(Patch-Test)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Skin Sens. 1B
Aspiration hazard:						Yes

p-mentha-1,4-diene						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Serious eye damage/irritation:					OECD 437 (Bovine Corneal Opacity + Permeability Test for Identif. Ocular Corros. + Severe Irritants)	Not irritant
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Reproductive toxicity:	NOAEL	250	mg/kg bw/d	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Aspiration hazard:						Yes

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	> 4640	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	

Acute toxicity, by dermal route:	LD50	> 6500	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
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)
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Reproductive toxicity:					OECD 426 (Developmental Neurotoxicity Study)	No indications of such an effect.
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	150	mg/kg	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	

p-cymene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	4750	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by inhalation:	ATE	3	mg/l/4h			Vapours
Acute toxicity, by inhalation:	ATE	0,5	mg/l/4h			Dusts or mist
Aspiration hazard:						Yes

Camphene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2500	mg/kg	Rabbit		
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:					(Patch-Test)	No (skin contact)
Germ cell mutagenicity:						Negative
Germ cell mutagenicity:					bacterial	Negative
Symptoms:						breathing difficulties, respiratory distress, coughing, cramps, gastrointestinal disturbances, mucous membrane irritation, mental confusion

Pin-2(3)-ene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	500	mg/kg	Rat		
Acute toxicity, by oral route:	ATE	500	mg/kg			
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Irritant
Aspiration hazard:						Yes

7-methyl-3-methyleneocta-1,6-diene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Aspiration hazard:						Yes
Symptoms:						mucous membrane irritation

11.2. Information on other hazards

Auto Duft Speed Lemon						
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.

SECTION 12: Ecological information

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

Auto Duft Speed Lemon							
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:							DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a.

Linalool							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	NOEC/NOEL	96h	<3,5	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	LC50	96h	27,8	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	59	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

12.1. Toxicity to algae:	EC50	96h	141,4	mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	96h	156,7	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.1. Toxicity to algae:	EC10	96h	54,3	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.2. Persistence and degradability:	BOD	28d	64,2	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	64,2	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		2,84			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	Low 25 °C
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	3h	>1000	mg/l			
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

3a,4,5,6,7,7a-hexahydro-4,7-methanoinden-6-yl acetate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	48h	76	mg/l	Leuciscus idus		
12.1. Toxicity to algae:	EC50	72h	13,075	mg/l	Pseudokirchneriella subcapitata	QSAR	
12.3. Bioaccumulative potential:	BCF		35				
12.3. Bioaccumulative potential:	Log Pow		0,92				Bioaccumulation is unlikely (LogPow < 1).

2,6-dimethyloct-7-en-2-ol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	27,8	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EC50	48h	38	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	80	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	72	%	activated sludge	OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable

12.3. Bioaccumulative potential:	Log Pow		3,25			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	Low40 °C
12.3. Bioaccumulative potential:	BCF		64,8				LowQSAR
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	30min	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

(R)-p-mentha-1,8-diene

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,70	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,307-0,42	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	ErC50	72h	0,214-0,32	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	96h	4	mg/l			
12.2. Persistence and degradability:		28d	80-92	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	71	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Kow		4,38			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	37 °C, pH = 7.2
12.4. Mobility in soil:							Adsorption in ground.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Other information:							Does not contain any organically bound halogens which can contribute to the AOX value in waste water.

Decanal

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	14d	3,19	mg/l	Poecilia reticulata		

12.1. Toxicity to fish:	LC50	96h	1,45-2,1	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	96h	1,75	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	1,17	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	0,588	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	4,5	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,759	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	82	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		3,5-3,76				Low
Toxicity to bacteria:	EC50	3h	~70	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Toxicity to bacteria:	NOEC/NOEL	3h	31,6	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Geranyl acetate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	68,12	mg/l	Leuciscus idus	DIN 38412 T.15	
12.1. Toxicity to fish:	NOEC/NOEL	96h	10	mg/l	Leuciscus idus	DIN 38412 T.15	
12.1. Toxicity to daphnia:	EC50	48h	14,1	mg/l	Daphnia magna	Regulation (EC) 440/2008 C.2 (DAPHNIA SP. ACUTE IMMOBILISATION TEST)	
12.1. Toxicity to algae:	EC50	72h	3,72	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,585	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	

12.2. Persistence and degradability:		28d	73	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	91	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.2. Persistence and degradability:	DT50		1539	h			25 °C, pH 7, OECD 111
12.3. Bioaccumulative potential:	Log Pow		4,04			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	
12.3. Bioaccumulative potential:	Log Pow		4,04				High
12.4. Mobility in soil:	Log Koc		3,06				calculated value
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Citral

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	6,78	mg/l	Leuciscus idus	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	6,8	mg/l	Daphnia magna	Regulation (EC) 440/2008 C.2 (DAPHNIA SP. ACUTE IMMOBILISATION TEST)	
12.1. Toxicity to algae:	EC50	72h	103,8	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.1. Toxicity to algae:	EC10	72h	3	mg/l	Desmodesmus subspicatus	DIN 38412 T.9	
12.2. Persistence and degradability:		28d	> 90	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	92	%	activated sludge	OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		89,72				Low
12.3. Bioaccumulative potential:	Log Pow		2,76			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	A notable biological accumulation potential is not to be expected (LogPow 1-3).25 °C
12.4. Mobility in soil:	Log Koc		2,33			OECD 121 (Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using HPLC)	Adsorption in ground.

12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	30min	~160	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Geraniol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	22	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	NOEC/NOEL	96h	10	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	LC50	96h	~ 22	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	7,75	mg/l			
12.1. Toxicity to daphnia:	EC50	48h	10,8	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	13,1	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC10	72h	3,77	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	82	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	86	%		OECD 301 (Ready Biodegradability)	Readily biodegradable
12.2. Persistence and degradability:		28d	100	%		OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		2,6			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	Low25 °C
Toxicity to bacteria:	EC50	96h	144	mg/l		ISO 8192	

2-methylundecanal

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,35	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	96h	0,11	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	

12.1. Toxicity to daphnia:	NOEC/NOEL	48h	0,053	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,21	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	0,18	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,089	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	68	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		4,9			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	High

Pin-2(10)-ene

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,68	mg/l			
12.1. Toxicity to daphnia:	EC50	48h	0,86	mg/l			
12.1. Toxicity to algae:	EC50	72h	0,7	mg/l			
12.2. Persistence and degradability:		28d	1	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Not readily biodegradable
12.2. Persistence and degradability:		28d	81	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		4,425-5,4				
12.3. Bioaccumulative potential:	BCF		1163				

2,6-di-tert-butyl-p-cresol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOEC/NOEL	42d	0,053	mg/l	Oryzias latipes	OECD 210 (Fish, Early-Life Stage Toxicity Test)	
12.1. Toxicity to fish:	LC50	96h	>0,57	mg/l	Brachydanio rerio	84/449/EEC C.1	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,023	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,45	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>0,4	mg/l	Desmodesmus subspicatus	84/449/EEC C.3	

12.1. Toxicity to algae:	EC50	72h	0,5	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,4	mg/l	Desmodesmus subspicatus	84/449/EEC C.3	
12.2. Persistence and degradability:		28d	4,5	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		5,1				High
12.3. Bioaccumulative potential:	BCF		330-1800		Cyprinus caprio	OECD 305 (Bioconcentration - Flow-Through Fish Test)	
12.3. Bioaccumulative potential:			230-2500		Cyprinus carpio	OECD 305 (Bioconcentration - Flow-Through Fish Test)	56d
12.4. Mobility in soil:	Log Koc		3,9-4,2				
12.4. Mobility in soil:	Koc		14750				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	3h	>10000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Other information:	Koc		14750				
Other information:	Log Koc		3,9-4,2				
Other information:	AOX						Does not contain any organically bound halogens which can contribute to the AOX value in waste water.
Water solubility:			0,00076	g/l			

Diphenyl ether

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	4,2	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	NOEC/NOEL	96h	3,2	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	EC50	48h	1,96	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	0,76	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	72h	0,58	mg/l	Pseudokirchneriella subcapitata		
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,32	mg/l	Pseudokirchneriella subcapitata		
12.2. Persistence and degradability:		20d	76	%			Readily biodegradable
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

Caryophyllene

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to daphnia:	EC50	48h	>0,17	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Maximum achievable concentration.
12.2. Persistence and degradability:		28d	56	%	activated sludge	OECD 310 (Ready Biodegradability - CO2 in sealed vessels (Headspace Test))	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		6,23			OECD 123 (Partition Coefficient (1-Octanol / Water) - Slow-Stirring Method)	

p-mentha-1,4-diene

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	EC50	96h	2792	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	10189	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>10,82	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	27	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Not readily biodegradable
Toxicity to bacteria:	EC50	3h	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOEC/NOEL	21d	0,093	mg/l	Lepomis macrochirus	OECD 204 (Fish, Prolonged Toxicity Test - 14-Day Study)	Clinical signs
12.1. Toxicity to fish:	LC50	96h	1,36	mg/l	Lepomis macrochirus	OECD 204 (Fish, Prolonged Toxicity Test - 14-Day Study)	calculated value

12.1. Toxicity to daphnia:	NOEC/NOEL	21d	111	µg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,9	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	calculated value
12.1. Toxicity to algae:	EC50	72h	> 0,854	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	~ 2	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	BCF		1584-2507		Lepomis macrochirus	OECD 305 (Bioconcentration - Flow-Through Fish Test)	
12.3. Bioaccumulative potential:	Log Pow		5,3				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Camphene							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	0,72	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,72	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	320-580	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	IC50	72h	>1000	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.3. Bioaccumulative potential:	Log Pow		4,22				A notable biological accumulation potential has to be expected (LogPow > 3).
Toxicity to bacteria:	EC50	3h	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Water solubility:			4,2	mg/l			20°C

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 99 wastes not otherwise specified
16 03 05 organic wastes containing hazardous substances
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.
E.g. dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.
Recycling
15 01 01 paper and cardboard packaging
15 01 02 plastic packaging

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. (D-LIMONENE, PINENES)	
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
14.5. Environmental hazards:	environmentally hazardous
Tunnel restriction code:	D/E
Classification code:	F1
LQ:	5 L
Transport category:	3


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. (D-LIMONENE, PINENES)	
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
14.5. Environmental hazards:	environmentally hazardous
Marine Pollutant:	Yes
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. (D-LIMONENE, PINENES)	
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
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)!
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
E2		200	500

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): 54,07 %

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: 2
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. 3, H226	Classification based on test data.
Eye Irrit. 2, H319	Classification according to calculation procedure.
Skin Irrit. 2, H315	Classification according to calculation procedure.
Skin Sens. 1, H317	Classification according to calculation procedure.
Aquatic Chronic 2, H411	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.
H226 Flammable liquid and vapour.
H228 Flammable solid.
H317 May cause an allergic skin reaction.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H361 Suspected of damaging fertility or the unborn child.
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.

Flam. Liq. — Flammable liquid
Eye Irrit. — Eye irritation
Skin Irrit. — Skin irritation
Skin Sens. — Skin sensitization
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Asp. Tox. — Aspiration hazard
Aquatic Acute — Hazardous to the aquatic environment - acute
Eye Dam. — Serious eye damage
Repr. — Reproductive toxicity
Acute Tox. — Acute toxicity - inhalation
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Flam. Sol. — Flammable solid
Acute Tox. — Acute toxicity - oral

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.
No responsibility.
These statements were made by:

Chemical Check GmbH, Chemical Check Platz 1-7, D-32839 Steinheim, Tel.: +49 5233 94 17 0, Fax: +49 5233 94 17 90