

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

#### 1.1. Product identifier

Product form	: Mixture
Trade name	: LEMON
UFI	: 2QAM-K3RS-600F-30D0
Product code	:
Type of product	: Perfumes, fragrances
Product group	: Trade product

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

##### 1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use
Industrial/Professional use spec	: For professional use only Industrial
Use of the substance/mixture	: Perfumes, fragrances
Function or use category	: Odour agents

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

LK Family Kf  
Hungary, 9400, Sopron, Selmeci u. 23  
T+36301233394  
info@candlemarket.eu

#### 1.4. Emergency telephone number

Emergency number : 1-800-255-3924; +01-813-248-0585; China: +400-120-0751; Mexico: +01-800-099-0731;  
Brazil: +0-800-591-6042; India: +000-800-100-4086

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Skin sensitisation, Category 1	H317
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

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

##### Adverse physicochemical, human health and environmental effects

Causes serious eye irritation. Harmful if swallowed. Causes skin irritation. May be fatal if swallowed and enters airways. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. May cause an allergic skin reaction.

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

Contains

Hazard statements (CLP)

Precautionary statements (CLP)

Extra phrases

- : Danger
- : benzyl benzoate; Lemon terpenes; citral; Lime oil distilled ; Geraniol; Nerol; Citronellol Pure; Geranium oil Egyptian ; Linalyl acetate; Grapefruit oil; Triplal (Vertocitral); Geranyl acetate; Mayol; Hexyl cinnamic aldehyde; Artemesia vulgaris oil (Armoise)
- : H302 - Harmful if swallowed.  
H304 - May be fatal if swallowed and enters airways.  
H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H410 - Very toxic to aquatic life with long lasting effects.
- : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P272 - Contaminated work clothing should not be allowed out of the workplace.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- : For professional users only.

### 2.3. Other hazards

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
benzyl benzoate	CAS-No.: 120-51-4 EC-No.: 204-402-9 EC Index-No.: 607-085-00-9 REACH-no: 01-2119976371-33	36.6 – 73.194	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Lemon terpenes	CAS-No.: 68917-33-9 EC-No.: 284-515-8	8.4 – 16.8	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
citral substance with national workplace exposure limit(s) (BE, ES, IE, PL, PT)	CAS-No.: 5392-40-5 EC-No.: 226-394-6 EC Index-No.: 605-019-00-3 REACH-no: 01-2119462829-23	1.5 – 3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Lime oil distilled	CAS-No.: 8008-26-2 EC-No.: 290-010-3 REACH-no: 01-2120138646-51	0.6 – 1.25	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Repr. 2, H361 Asp. Tox. 1, H304 Aquatic Chronic 1, H410
Citronellol Pure	CAS-No.: 106-22-9 EC-No.: 203-375-0 REACH-no: 01-2119453995-23	0.6 – 1.2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Geraniol	CAS-No.: 106-24-1 EC-No.: 203-377-1 EC Index-No.: 603-241-00-5 REACH-no: 01-2119552430-49	0.36 – 0.72	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317
Geranium oil Egyptian	CAS-No.: 8000-46-2 EC-No.: 290-140-0 REACH-no: 01-2120769423-50	0.3 – 0.5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Nerol	CAS-No.: 106-25-2 EC-No.: 203-378-7	0.24 – 0.48	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Linalyl acetate	CAS-No.: 115-95-7 EC-No.: 204-116-4 REACH-no: 01-2119454789-19	0.2258188 – 0.3258188	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Grapefruit oil	CAS-No.: 8016-20-4 EC-No.: 600-007-4	0.1 – 0.2	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Triplal (Vertocitral)	CAS-No.: 68039-49-6 EC-No.: 268-264-1	0.1 – 0.1815	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Geranyl acetate	CAS-No.: 105-87-3 EC-No.: 203-341-5 REACH-no: 01-2119973480-35	0.1 – 0.15	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Mayol	CAS-No.: 13828-37-0 EC-No.: 237-539-8	0.1 – 0.15	Skin Sens. 1B, H317 Skin Irrit. 2, H315
Hexyl cinnamic aldehyde	CAS-No.: 101-86-0 EC-No.: 202-983-3 REACH-no: 01-2119533092-50	0.1 – 0.1	Skin Sens. 1, H317 Aquatic Chronic 2, H411

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Artemesia vulgaris oil (Armoise)	CAS-No.: 68991-20-8 EC-No.: 283-874-8	0.1 – 0.1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 STOT SE 2, H371 Asp. Tox. 1, H304 Aquatic Chronic 3, H412 Eye Irrit. 2, H319
(R)-p-mentha-1,8-diene; d-limonene substance with national workplace exposure limit(s) (DE, ES, FI, SI, NO, CH)	CAS-No.: 5989-27-5 EC-No.: 205-341-0 EC Index-No.: 601-096-00-2 REACH-no: 01-2119493353-35	0.025614 – 0.025614	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
.beta.-Pinene substance with national workplace exposure limit(s) (BE, EE, ES, LT, PT, SE, NO)	CAS-No.: 127-91-3 EC-No.: 204-872-5	0.0038255 – 0.0038255	Flam. Liq. 3, H226
Alcohol C-10 substance with national workplace exposure limit(s) (BG, DE, LT, LV, RO, CH)	CAS-No.: 112-30-1 EC-No.: 203-956-9	0 – 0.0028	Aquatic Chronic 3, H412
Aldehyde C-6 substance with national workplace exposure limit(s) (FI, PL)	CAS-No.: 66-25-1 EC-No.: 200-624-5	0 – 0.0007	Flam. Liq. 3, H226
Toluene substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 108-88-3 EC-No.: 203-625-9 EC Index-No.: 601-021-00-3	0.0000004 – 0.0000004	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see Get medical advice/attention. on this label). If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Do NOT induce vomiting. Obtain emergency medical attention. Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

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Symptoms/effects after ingestion : Risk of lung oedema.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Sand. Water spray. Dry powder. Foam. Carbon dioxide.  
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Evacuate unnecessary personnel. Avoid breathing dust/fume/gas/mist/vapours/spray.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".  
Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.  
Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

See Section 8. Exposure controls and personal protection. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.

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Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container closed when not in use. Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage temperature : 25 °C

Storage area : Store in a well-ventilated place. Store away from heat.

Special rules on packaging : Store in a closed container.

Packaging materials : Do not store in corrodable metal.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

citral (5392-40-5)	
<b>Belgium - Occupational Exposure Limits</b>	
OEL TWA	32 mg/m <sup>3</sup> (vapor and aerosol) 5 ppm (vapor and aerosol)
OEL chemical category	Skin
<b>Ireland - Occupational Exposure Limits</b>	
OEL TWA	5 ppm
OEL STEL	15 ppm (calculated)
<b>Poland - Occupational Exposure Limits</b>	
NDS (OEL TWA)	27 mg/m <sup>3</sup>
NDSch (OEL STEL)	54 mg/m <sup>3</sup>
<b>Portugal - Occupational Exposure Limits</b>	
OEL TWA	5 ppm (inhalable fraction; vapor)
OEL chemical category	Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen, skin - potential for cutaneous exposure
<b>Spain - Occupational Exposure Limits</b>	
VLA-ED (OEL TWA)	5 ppm (inhalable fraction and vapor)
OEL chemical category	Sensitizer, skin - potential for cutaneous absorption
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	5 ppm (inhalable fraction and vapor)
ACGIH chemical category	Not Classifiable as a Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route, dermal sensitizer

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Alcohol C-10 (112-30-1)	
<b>Bulgaria - Occupational Exposure Limits</b>	
OEL TWA	10 mg/m <sup>3</sup>
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
AGW (OEL TWA)	66 mg/m <sup>3</sup> (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
	10 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
<b>Latvia - Occupational Exposure Limits</b>	
OEL TWA	10 mg/m <sup>3</sup>
<b>Lithuania - Occupational Exposure Limits</b>	
IPRV (OEL TWA)	10 mg/m <sup>3</sup>
<b>Romania - Occupational Exposure Limits</b>	
OEL TWA	100 mg/m <sup>3</sup>
	15 ppm
OEL STEL	200 mg/m <sup>3</sup>
	30 ppm
<b>Switzerland - Occupational Exposure Limits</b>	
MAK (OEL TWA)	66 mg/m <sup>3</sup> (aerosol, vapour)
	10 ppm (aerosol, vapour)
KZGW (OEL STEL)	66 mg/m <sup>3</sup> (aerosol, vapour)
	10 ppm (aerosol, vapour)
<b>Aldehyde C-6 (66-25-1)</b>	
<b>Finland - Occupational Exposure Limits</b>	
HTP (OEL STEL)	42 mg/m <sup>3</sup>
	10 ppm
<b>Poland - Occupational Exposure Limits</b>	
NDS (OEL TWA)	40 mg/m <sup>3</sup>
NDSch (OEL STEL)	80 mg/m <sup>3</sup>
<b>Toluene (108-88-3)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
IOEL TWA	192 mg/m <sup>3</sup>
	50 ppm
IOEL STEL	384 mg/m <sup>3</sup>
	100 ppm
Remark	Possibility of significant uptake through the skin
<b>Austria - Occupational Exposure Limits</b>	
MAK (OEL TWA)	190 mg/m <sup>3</sup>
	50 ppm
MAK (OEL STEL)	380 mg/m <sup>3</sup>

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<b>Toluene (108-88-3)</b>	
	100 ppm
OEL chemical category	Skin notation
<b>Belgium - Occupational Exposure Limits</b>	
OEL TWA	77 mg/m <sup>3</sup>
	20 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Skin, Skin notation
<b>Bulgaria - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
<b>Bulgaria - Biological limit values</b>	
BLV	1.6 mmol/mmol Creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: at the end of exposure or end of work shift
<b>Croatia - Occupational Exposure Limits</b>	
GVI (OEL TWA)	192 mg/m <sup>3</sup>
	50 ppm
KGVI (OEL STEL)	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Skin notation
<b>Croatia - Biological limit values</b>	
BLV	1 mg/l Parameter: Toluene - Medium: blood - Sampling time: at the end of the work shift 20 ppm Parameter: Toluene - Medium: final exhaled air - Sampling time: during exposure 2.5 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine) 1 mg/g creatinine Parameter: o-Cresol - Medium: urine - Sampling time: at the end of the work shift (calculated on the average Creatinine value of 1.2 g/L urine)
<b>Cyprus - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Skin-potential for cutaneous absorption
<b>Czech Republic - Occupational Exposure Limits</b>	
PEL (OEL TWA)	200 mg/m <sup>3</sup>
OEL chemical category	Potential for cutaneous absorption

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Toluene (108-88-3)	
<b>Czech Republic - Biological limit values</b>	
BLV	1.6 µmol/mmol Creatinine Parameter: o-Cresol - Medium: urine - Sampling time: end of shift (after hydrolysis) 1000 µmol/mmol Creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (exposure testing using the o-Cresol parameter to precisely measure Toluene exposure is needed if the value of Hippuric acid is between 1600 and 2500 mg/g of Creatinine, no additional testing is needed if the Hippuric acid value is >2500 mg/g of Creatinine as work exposure to Toluene will have highly exceeded the PEL value.) 1.5 mg/g creatinine Parameter: o-Cresol - Medium: urine - Sampling time: end of shift (after hydrolysis) 1600 mg/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (exposure testing using the o-Cresol parameter to precisely measure Toluene exposure is needed if the value of Hippuric acid is between 1600 and 2500 mg/g of Creatinine, no additional testing is needed if the Hippuric acid value is >2500 mg/g of Creatinine as work exposure to Toluene will have highly exceeded the PEL value.)
<b>Denmark - Occupational Exposure Limits</b>	
OEL TWA	94 mg/m <sup>3</sup>
	25 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Potential for cutaneous absorption
<b>Estonia - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Skin notation
<b>Finland - Occupational Exposure Limits</b>	
HTP (OEL TWA)	81 mg/m <sup>3</sup>
	25 ppm
HTP (OEL STEL)	380 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Potential for cutaneous absorption
<b>Finland - Biological limit values</b>	
BLV	500 nmol/L Parameter: Toluene - Medium: blood - Sampling time: in the morning after a working day
<b>France - Occupational Exposure Limits</b>	
VME (OEL TWA)	76.8 mg/m <sup>3</sup> (restrictive limit)
	20 ppm (restrictive limit)
VLE (OEL C/STEL)	384 mg/m <sup>3</sup> (restrictive limit)
	100 ppm (restrictive limit)
OEL chemical category	Reproductive Toxin category 2, Risk of cutaneous absorption

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<b>Toluene (108-88-3)</b>	
<b>France - Biological limit values</b>	
BLV	20 µg/l Parameter: Toluene - Medium: blood - Sampling time: end of workweek (Semi-quantitative (ambiguous interpretation)) Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift (per the Authority, the values for this substance must be decided and/or determined on a case by case basis. Guidance for the calculation of and interpretation of values is provided in the source)
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
AGW (OEL TWA)	190 mg/m <sup>3</sup> (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) 50 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	Skin notation
<b>Germany - Biological limit values (TRGS 903)</b>	
Biological limit value	600 µg/l Parameter: Toluene - Medium: whole blood - Sampling time: immediately after exposure 75 µg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 1.5 mg/l Parameter: o-Cresol (after hydrolysis) - Medium: urine - Sampling time: for long-term exposures: at the end of the shift after several shifts 1.5 mg/l Parameter: o-Cresol (after hydrolysis) - Medium: urine - Sampling time: end of shift
<b>Gibraltar - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup> 50 ppm
OEL STEL	384 mg/m <sup>3</sup> 100 ppm
OEL chemical category	Skin notation
<b>Greece - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup> 50 ppm
OEL STEL	384 mg/m <sup>3</sup> 100 ppm
OEL chemical category	skin - potential for cutaneous absorption
<b>Hungary - Occupational Exposure Limits</b>	
AK (OEL TWA)	190 mg/m <sup>3</sup>
CK (OEL STEL)	384 mg/m <sup>3</sup>
OEL chemical category	Potential for cutaneous absorption
<b>Ireland - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup> 50 ppm
OEL STEL	384 mg/m <sup>3</sup> 100 ppm
OEL chemical category	Potential for cutaneous absorption

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<b>Toluene (108-88-3)</b>	
<b>Italy - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL chemical category	skin - potential for cutaneous absorption
<b>Latvia - Occupational Exposure Limits</b>	
OEL TWA	50 mg/m <sup>3</sup>
	14 ppm
OEL chemical category	skin - potential for cutaneous exposure
<b>Latvia - Biological Exposure Indices</b>	
BEI	1.6 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift 0.05 mg/l Parameter: Toluene - Medium: blood - Sampling time: end of shift
<b>Lithuania - Occupational Exposure Limits</b>	
IPRV (OEL TWA)	192 mg/m <sup>3</sup>
	50 ppm
TPRV (OEL STEL)	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Reproductive toxin, Skin notation
<b>Luxembourg - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Possibility of significant uptake through the skin
<b>Malta - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Possibility of significant uptake through the skin
<b>Netherlands - Occupational Exposure Limits</b>	
TGG-8u (OEL TWA)	150 mg/m <sup>3</sup>
	39 ppm
TGG-15min (OEL STEL)	384 mg/m <sup>3</sup>
	100 ppm
<b>Poland - Occupational Exposure Limits</b>	
NDS (OEL TWA)	100 mg/m <sup>3</sup>
NDSch (OEL STEL)	200 mg/m <sup>3</sup>
<b>Portugal - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup> (indicative limit value)

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<b>Toluene (108-88-3)</b>	
	50 ppm (indicative limit value)
OEL STEL	384 mg/m <sup>3</sup> (indicative limit value)
	100 ppm (indicative limit value)
OEL chemical category	A4 - Not Classifiable as a Human Carcinogen, skin - potential for cutaneous exposure indicative limit value
<b>Romania - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Skin notation
<b>Romania - Biological limit values</b>	
BLV	2 g/l Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift 3 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift
<b>Slovakia - Occupational Exposure Limits</b>	
NPHV (OEL TWA)	192 mg/m <sup>3</sup>
	50 ppm
NPHV (OEL C)	384 mg/m <sup>3</sup> (also biological monitoring considered)
OEL chemical category	Potential for cutaneous absorption
<b>Slovakia - Biological limit values</b>	
BLV	600 µg/l Parameter: Toluene - Medium: blood - Sampling time: end of exposure or work shift 1.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: after all work shifts (for long-term exposure) 1.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of exposure or work shift 2401 mg/g creatinine Parameter: Hippuric acid - Sampling time: end of exposure or work shift
<b>Slovenia - Occupational Exposure Limits</b>	
OEL TWA	192 mg/m <sup>3</sup>
	50 ppm
OEL STEL	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Category 2, Potential for cutaneous absorption
<b>Spain - Occupational Exposure Limits</b>	
VLA-ED (OEL TWA)	192 mg/m <sup>3</sup> (indicative limit value)
	50 ppm (indicative limit value)
VLA-EC (OEL STEL)	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	skin - potential for cutaneous absorption

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<b>Toluene (108-88-3)</b>	
<b>Spain - Biological limit values</b>	
BLV	0.6 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift 0.05 mg/l Parameter: Toluene - Medium: blood - Sampling time: start of last shift of workweek 0.08 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift
<b>Sweden - Occupational Exposure Limits</b>	
NGV (OEL TWA)	192 mg/m <sup>3</sup>
	50 ppm
KGV (OEL STEL)	384 mg/m <sup>3</sup>
	100 ppm
OEL chemical category	Skin notation
<b>United Kingdom - Occupational Exposure Limits</b>	
WEL TWA (OEL TWA)	191 mg/m <sup>3</sup>
	50 ppm
WEL STEL (OEL STEL)	384 mg/m <sup>3</sup>
	100 ppm
WEL chemical category	Potential for cutaneous absorption
<b>Norway - Occupational Exposure Limits</b>	
Grenseverdi (OEL TWA)	94 mg/m <sup>3</sup>
	25 ppm
Korttidsverdi (OEL STEL)	141 mg/m <sup>3</sup> (value calculated)
	37.5 ppm (value calculated)
OEL chemical category	Skin notation
<b>Switzerland - Occupational Exposure Limits</b>	
MAK (OEL TWA)	190 mg/m <sup>3</sup>
	50 ppm
KZGW (OEL STEL)	760 mg/m <sup>3</sup>
	200 ppm
OEL chemical category	Skin notation, Category 2 reproductive toxin
<b>Switzerland - BAT</b>	
BAT	600 µg/l Parameter: Toluene - Medium: whole blood - Sampling time: end of shift 6.48 µmol/l Parameter: Toluene - Medium: whole blood - Sampling time: end of shift 2 g/g creatinine Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) Parameter: Hippuric acid - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 0.5 mg/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 4.62 µmol/l Parameter: o-Cresol - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures) 75 µg/l Parameter: Toluol - Medium: urine - Sampling time: end of shift
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	20 ppm

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<b>Toluene (108-88-3)</b>	
ACGIH chemical category	Not Classifiable as a Human Carcinogen
<b>USA - ACGIH - Biological Exposure Indices</b>	
BEI	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g creatinine Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
<b>(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)</b>	
<b>Finland - Occupational Exposure Limits</b>	
HTP (OEL TWA)	140 mg/m <sup>3</sup>
	25 ppm
HTP (OEL STEL)	280 mg/m <sup>3</sup>
	50 ppm
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
AGW (OEL TWA)	28 mg/m <sup>3</sup> (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
	5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	Skin notation, Skin sensitization
<b>Slovenia - Occupational Exposure Limits</b>	
OEL TWA	28 mg/m <sup>3</sup>
	5 ppm
OEL STEL	112 mg/m <sup>3</sup>
	20 ppm
OEL chemical category	Potential for cutaneous absorption
<b>Spain - Occupational Exposure Limits</b>	
VLA-ED (OEL TWA)	168 mg/m <sup>3</sup>
	30 ppm
OEL chemical category	Sensitizer, skin - potential for cutaneous absorption
<b>Norway - Occupational Exposure Limits</b>	
Grenseverdi (OEL TWA)	140 mg/m <sup>3</sup>
	25 ppm
Korttidsverdi (OEL STEL)	175 mg/m <sup>3</sup> (value calculated)
	37.5 ppm (value calculated)
OEL chemical category	Allergenic substance
<b>Switzerland - Occupational Exposure Limits</b>	
MAK (OEL TWA)	40 mg/m <sup>3</sup>
	7 ppm
KZGW (OEL STEL)	80 mg/m <sup>3</sup>
	14 ppm
OEL chemical category	Sensitizer

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<b>.beta.-Pinene (127-91-3)</b>	
<b>Belgium - Occupational Exposure Limits</b>	
OEL TWA	20 ppm
<b>Estonia - Occupational Exposure Limits</b>	
OEL TWA	150 mg/m <sup>3</sup> (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
	25 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
OEL STEL	300 mg/m <sup>3</sup> (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
	50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
<b>Lithuania - Occupational Exposure Limits</b>	
IPRV (OEL TWA)	150 mg/m <sup>3</sup>
	25 ppm
TPRV (OEL STEL)	300 mg/m <sup>3</sup>
	50 ppm
<b>Portugal - Occupational Exposure Limits</b>	
OEL TWA	20 ppm (Turpentine and selected Monoterpenes)
OEL chemical category	Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen
<b>Spain - Occupational Exposure Limits</b>	
VLA-ED (OEL TWA)	113 mg/m <sup>3</sup>
	20 ppm
OEL chemical category	Sensitizer
<b>Sweden - Occupational Exposure Limits</b>	
NGV (OEL TWA)	150 mg/m <sup>3</sup>
	25 ppm
KGV (OEL STEL)	300 mg/m <sup>3</sup>
	50 ppm
OEL chemical category	Sensitizer
<b>Norway - Occupational Exposure Limits</b>	
Grenseverdi (OEL TWA)	140 mg/m <sup>3</sup>
	25 ppm
Korttidsverdi (OEL STEL)	175 mg/m <sup>3</sup> (value calculated)
	37.5 ppm (value calculated)
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	20 ppm (Turpentine and selected Monoterpenes)
ACGIH chemical category	Not Classifiable as a Human Carcinogen, dermal sensitizer

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

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### 8.1.4. DNEL and PNEC

No additional information available

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Chemical goggles or safety glasses. Safety glasses

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing

##### Hand protection:

Protective gloves. Wear protective gloves.

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate mask

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Conforms to standard.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 65 °C

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Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 20.5 mm <sup>2</sup> /s
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: ≈ 1.11
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions. Not established.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### LEMON

ATE CLP (oral)	683.116 mg/kg bodyweight
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#### benzyl benzoate (120-51-4)

LD50 oral rat	> 2000 mg/kg (Source: ECHA_API)
LD50 oral	1160 mg/kg bodyweight
LD50 dermal rabbit	4000 mg/kg (Source: NLM_CIP)

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<b>citral (5392-40-5)</b>	
LD50 oral rat	4960 mg/kg (Source: NLM_CIP)
LD50 dermal rabbit	2250 mg/kg (Source: NLM_CIP)
<b>Lime oil distilled (8008-26-2)</b>	
LD50 oral rat	5600 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
<b>Geraniol (106-24-1)</b>	
LD50 oral rat	3600 mg/kg (Source: NLM_CIP)
LD50 oral	3600 mg/kg bodyweight
LD50 dermal rabbit	> 5 g/kg (Source: NLM_CIP)
<b>Nerol (106-25-2)</b>	
LD50 oral rat	4500 mg/kg (Source: NLM_CIP)
LD50 oral	4500 mg/kg bodyweight
LD50 dermal rabbit	> 5 g/kg (Source: NLM_CIP)
<b>Citronellol Pure (106-22-9)</b>	
LD50 oral rat	3450 mg/kg (Source: NLM_CIP)
LD50 oral	3450 mg/kg bodyweight
LD50 dermal rabbit	2650 mg/kg (Source: EPA_HPVS)
LD50 dermal	2650 mg/kg bodyweight
<b>Geranium oil Egyptian (8000-46-2)</b>	
LD50 oral	4811 mg/kg bodyweight
LD50 dermal	2500 mg/kg bodyweight
<b>Linalyl acetate (115-95-7)</b>	
LD50 oral rat	14550 mg/kg (Source: EPA_HPVS)
LD50 dermal rabbit	> 5000 mg/kg (Source: ECHA)
LC50 Inhalation - Rat	> 18.94 mg/l (Exposure time: 8 h Source: ECHA)
<b>Grapefruit oil (8016-20-4)</b>	
LD50 oral rat	> 5 g/kg (Source: ECHA)
<b>Triplal (Vertocitral) (68039-49-6)</b>	
LD50 oral	2330 mg/kg
<b>Geranyl acetate (105-87-3)</b>	
LD50 oral rat	6330 mg/kg (Source: NLM_CIP)
<b>Hexyl cinnamic aldehyde (101-86-0)</b>	
LD50 oral rat	3100 mg/kg (Source: NLM_CIP)
LD50 oral	3100 mg/kg bodyweight
LD50 dermal rabbit	> 3000 mg/kg (Source: EPA_HPVS)
LC50 Inhalation - Rat	> 5 mg/l/4h

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<b>Artemisia vulgaris oil (Armoise) (68991-20-8)</b>	
LD50 oral	747 mg/kg bodyweight
<b>Alcohol C-10 (112-30-1)</b>	
LD50 oral rat	4720 mg/kg (Source: NZ_CCID)
LD50 dermal rat	> 5000 mg/kg (Source: ECHA_API)
LC50 Inhalation - Rat	> 71 mg/l (Exposure time: 1 h Source: ECHA_API)
<b>Aldehyde C-6 (66-25-1)</b>	
LD50 oral rat	4890 mg/kg (Source: NLM_CIP)
LD50 dermal rabbit	> 8100 mg/kg (Source: ECHA_API)
<b>Toluene (108-88-3)</b>	
LD50 oral rat	2600 mg/kg (Source: JAPAN_GHS)
LD50 dermal rabbit	12000 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation - Rat	12.5 mg/l/4h
<b>(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)</b>	
LD50 oral rat	4400 mg/kg (Source: CHEMVIEW)
LD50 dermal rabbit	> 5 g/kg (Source: CHEMVIEW)
<b>.beta.-Pinene (127-91-3)</b>	
LD50 oral rat	> 5000 mg/kg (Source: EPA_HPVS)
LD50 dermal rabbit	> 5000 mg/kg (Source: CHEMVIEW)
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
<b>Toluene (108-88-3)</b>	
IARC group	3 - Not classifiable
<b>(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)</b>	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
<b>Artemisia vulgaris oil (Armoise) (68991-20-8)</b>	
STOT-single exposure	May cause damage to organs.
<b>Toluene (108-88-3)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
<b>Toluene (108-88-3)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: May be fatal if swallowed and enters airways.
<b>LEMON</b>	
Viscosity, kinematic	20.5 mm <sup>2</sup> /s

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<b>benzyl benzoate (120-51-4)</b>	
Viscosity, kinematic	7.456 mm <sup>2</sup> /s
<b>Toluene (108-88-3)</b>	
Hydrocarbon	Yes
<b>(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)</b>	
Hydrocarbon	Yes
<b>.beta.-Pinene (127-91-3)</b>	
Hydrocarbon	Yes

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects. Very toxic to aquatic life.  
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.  
Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

<b>benzyl benzoate (120-51-4)</b>	
LC50 - Fish [1]	2.32 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static] Source: ECHA)
NOEC (chronic)	0.168 mg/l
<b>citral (5392-40-5)</b>	
EC50 - Crustacea [1]	7 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	16 mg/l (Species: Desmodesmus subspicatus)
EC50 96h - Algae [1]	19 mg/l (Species: Desmodesmus subspicatus)
<b>Geraniol (106-24-1)</b>	
LC50 - Fish [1]	22 mg/l (Exposure time: 96 h - Species: Danio rerio [static] Source: ECHA)
<b>Nerol (106-25-2)</b>	
LC50 - Fish [1]	20.3 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static] Source: ECHA)
<b>Linalyl acetate (115-95-7)</b>	
LC50 - Fish [1]	11 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [flow-through] Source: ECHA)
<b>Alcohol C-10 (112-30-1)</b>	
LC50 - Fish [1]	2.2 – 2.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
LC50 - Fish [2]	4.12 – 6.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
EC50 - Crustacea [1]	3 mg/l (Exposure time: 48 h - Species: Daphnia magna)

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<b>Aldehyde C-6 (66-25-1)</b>	
LC50 - Fish [1]	12 – 16.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
<b>Toluene (108-88-3)</b>	
LC50 - Fish [1]	15.22 – 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
LC50 - Fish [2]	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)
EC50 - Crustacea [1]	5.46 – 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 - Crustacea [2]	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	12.5 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	> 433 mg/l (Species: Pseudokirchneriella subcapitata)
<b>(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)</b>	
LC50 - Fish [1]	0.619 – 0.796 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
LC50 - Fish [2]	35 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss Source: EPA)
<b>12.2. Persistence and degradability</b>	
<b>LEMON</b>	
Persistence and degradability	Not established.
<b>benzyl benzoate (120-51-4)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>Lemon terpenes (68917-33-9)</b>	
Persistence and degradability	Rapidly degradable
<b>citral (5392-40-5)</b>	
Persistence and degradability	Rapidly degradable
<b>Lime oil distilled (8008-26-2)</b>	
Persistence and degradability	Rapidly degradable
<b>Geraniol (106-24-1)</b>	
Persistence and degradability	Rapidly degradable
<b>Nerol (106-25-2)</b>	
Persistence and degradability	Rapidly degradable
<b>Citronellol Pure (106-22-9)</b>	
Persistence and degradability	Rapidly degradable
<b>Geranium oil Egyptian (8000-46-2)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>Linalyl acetate (115-95-7)</b>	
Persistence and degradability	Rapidly degradable
<b>Grapefruit oil (8016-20-4)</b>	
Persistence and degradability	Rapidly degradable

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<b>Triplal (Vertocitral) (68039-49-6)</b>	
Persistence and degradability	Rapidly degradable
<b>Geranyl acetate (105-87-3)</b>	
Persistence and degradability	Rapidly degradable
<b>Mayol (13828-37-0)</b>	
Persistence and degradability	Rapidly degradable
<b>Hexyl cinnamic aldehyde (101-86-0)</b>	
Persistence and degradability	Rapidly degradable
<b>Artemesia vulgaris oil (Armoise) (68991-20-8)</b>	
Persistence and degradability	Rapidly degradable
<b>Alcohol C-10 (112-30-1)</b>	
Persistence and degradability	Rapidly degradable
<b>Aldehyde C-6 (66-25-1)</b>	
Persistence and degradability	Rapidly degradable
<b>Toluene (108-88-3)</b>	
Persistence and degradability	Rapidly degradable
<b>(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)</b>	
Persistence and degradability	Rapidly degradable
<b>.beta.-Pinene (127-91-3)</b>	
Persistence and degradability	Rapidly degradable
<b>12.3. Bioaccumulative potential</b>	
<b>LEMON</b>	
Bioaccumulative potential	Not established.
<b>benzyl benzoate (120-51-4)</b>	
Partition coefficient n-octanol/water (Log Pow)	3.97 (at 25 °C)
Bioaccumulative potential	Not established.
<b>citral (5392-40-5)</b>	
Partition coefficient n-octanol/water (Log Pow)	2.76 (at 25 °C)
<b>Geraniol (106-24-1)</b>	
Partition coefficient n-octanol/water (Log Pow)	2.6 (at 25 °C)
<b>Nerol (106-25-2)</b>	
Partition coefficient n-octanol/water (Log Pow)	2.76 (at 30 °C (at pH 6.5))
<b>Citronellol Pure (106-22-9)</b>	
Partition coefficient n-octanol/water (Log Pow)	3.41 (at 25 °C)
<b>Geranium oil Egyptian (8000-46-2)</b>	
Bioaccumulative potential	Not established.

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Linalyl acetate (115-95-7)	
Partition coefficient n-octanol/water (Log Pow)	3.9 (at 25 °C)
Geranyl acetate (105-87-3)	
Partition coefficient n-octanol/water (Log Pow)	4.04
Alcohol C-10 (112-30-1)	
Partition coefficient n-octanol/water (Log Pow)	4.5 (at 25 °C (at pH 6)
Aldehyde C-6 (66-25-1)	
Partition coefficient n-octanol/water (Log Pow)	2.3 (at 25 °C (at pH 5)
Toluene (108-88-3)	
Partition coefficient n-octanol/water (Log Pow)	2.73 (at 20 °C (at pH 7)
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Partition coefficient n-octanol/water (Log Pow)	4.38 (at 37 °C (at pH 7.2)

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecological information	: Avoid release to the environment.
HP Code	: HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye. HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs. HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

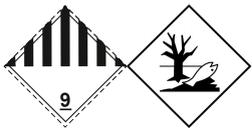
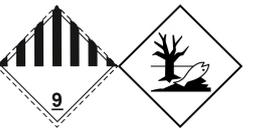
## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

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ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082
<b>14.2. UN proper shipping name</b>				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE)	Environmentally hazardous substance, liquid, n.o.s. (BENZYL BENZOATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE)
<b>Transport document description</b>				
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (BENZYL BENZOATE), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BENZYL BENZOATE), 9, III
<b>14.3. Transport hazard class(es)</b>				
9	9	9	9	9
				
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: M6
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90

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Orange plates	:	
Tunnel restriction code (ADR)	:	-
EAC code	:	•3Z

### Transport by sea

Special provisions (IMDG)	:	274, 335, 969
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	LP01, P001
Special packing provisions (IMDG)	:	PP1
IBC packing instructions (IMDG)	:	IBC03
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1, TP29
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-F
Stowage category (IMDG)	:	A

### Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y964
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	964
PCA max net quantity (IATA)	:	450L
CAO packing instructions (IATA)	:	964
CAO max net quantity (IATA)	:	450L
Special provisions (IATA)	:	A97, A158, A197, A215
ERG code (IATA)	:	9L

### Inland waterway transport

Classification code (ADN)	:	M6
Special provisions (ADN)	:	274, 335, 375, 601
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP
Number of blue cones/lights (ADN)	:	0

### Rail transport

Classification code (RID)	:	M6
Special provisions (RID)	:	274, 335, 375, 601
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Special packing provisions (RID)	:	PP1
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T4
Portable tank and bulk container special provisions (RID)	:	TP1, TP29
Tank codes for RID tanks (RID)	:	LGBV
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W12
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW31
Colis express (express parcels) (RID)	:	CE8
Hazard identification number (RID)	:	90

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

###### REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(a)	Lime oil distilled ; Grapefruit oil ; Artemisia vulgaris oil (Armoise)	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
40.	Lime oil distilled ; Grapefruit oil ; Artemisia vulgaris oil (Armoise)	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.
3(b)	LEMON ; benzyl benzoate ; Geraniol ; citral ; Lime oil distilled ; Citronellol Pure ; Grapefruit oil ; Linalyl acetate ; Mayol ; Triplal (Vertocitral) ; Geranium oil Egyptian ; Hexyl cinnamic aldehyde ; Geranyl acetate ; Artemisia vulgaris oil (Armoise)	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	LEMON ; benzyl benzoate ; Lime oil distilled ; Grapefruit oil ; Triplal (Vertocitral) ; Geranium oil Egyptian ; Hexyl cinnamic aldehyde ; Geranyl acetate ; Artemisia vulgaris oil (Armoise)	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

###### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

###### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

###### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

###### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

###### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

###### Council Regulation (EC) for the control of dual-use items

Contains substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

###### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

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### Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category, Subcategory	Threshold	Annex
Toluene		108-88-3	2902 30 00	Category 3		Annex I

### 15.1.2. National regulations

#### France

Occupational diseases	
Code	Description
RG 4 BIS	Gastrointestinal disorders caused by benzene, toluene, xylenes and all products containing them
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

#### Germany

Employment restrictions	: Observe restrictions according Act on the Protection of Working Mothers (MuSchG). Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).
Water hazard class (WGK)	: WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

#### Netherlands

ABM category	: A(1) - highly toxic for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen	: Lemon terpenes, Triplal (Vertocitral), Artemesia vulgaris oil (Armoise) are listed
SZW-lijst van mutagene stoffen	: Lemon terpenes, Triplal (Vertocitral), Artemesia vulgaris oil (Armoise) are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	: Toluene is listed

#### Denmark

Class for fire hazard	: Class III-1
Store unit	: 50 liter
Classification remarks	: Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	: Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Other information : None.

### Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1

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Full text of H- and EUH-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 2	Specific target organ toxicity – Single exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.