United States: en

# Armor All Air Freshener Vent Clip Desert Nights

Version number: 2.0 Replaces version of: 2020-06-28 (1)

## **SECTION 1: Identification**

## 1.1 Product identifier

Trade name Alternative number(s) Armor All Air Freshener Vent Clip Desert Nights

067788191740

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

Relevant identified uses

General use

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

Energizer Manufacturing, Inc. 25225 Detroit Rd. Westlake OH 44145 United States

Telephone: 800-383-7323; 314-985-2000 (USA / CANADA) Website: http://data.energizer.com

Energizer Trading Ltd. Sword House, Totteridge Road, High Wycombe, HP13 6DG, UK

Telephone: +44(0)8000353376 e-mail: ConsumerServiceEU@energizer.com

## 1.4 Emergency telephone number

Emergency information service

1-314-985-1511 Int'l: 1-800-526-4727 This number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

## SECTION 2: Hazard(s) identification

## 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard state- ment
A.4S	skin sensitization	1	Skin Sens. 1	H317
B.6	flammable liquid	3	Flam. Liq. 3	H226

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects The product is combustible and can be ignited by potential ignition sources.

## 2.2 Label elements





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Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word warning
- Pictograms
- GHS02, GHS07

- Hazard statements H226 Flammable liquid and vapor H317

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May cause an allergic skin reaction.

- Precautionary statements

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P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/eye protection/face protection.
P302+P352	If on skin: Wash with plenty of water.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P321	Specific treatment (see on this label).
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regula- tions.

2.2.1.7 - Hazardous ingredients for labelling

(R)-p-mentha-1,8-diene, citral, L-Carvone, α-pinene, Aldehyde C-16, Linalool, Hexyl cinnamaldehyde, Methyl cinnamate,  $\beta$ -pinene, p-mentha-1,4(8)diene, citronellol, Geranyl acetate

#### 2.3 **Other hazards**

Hazards not otherwise classified

May be harmful if swallowed (GHS category 5: acutely toxic - oral). Toxic to aquatic life with long lasting effects (GHS category 2: aquatic toxicity - acute and/or chronic).

## Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.



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SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
(2- methoxymethylethoxy)pro panol	CAS No 34590-94-8	1-<5	Flam. Liq. 4 / H227	
(R)-p-mentha-1,8-diene	CAS No 5989-27-5	1-<5	Skin Irrit. 2 / H315 Skin Sens. 1 / H317 Flam. Liq. 3 / H226	
citral	CAS No 5392-40-5	1-<5	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Asp. Tox. 1 / H304	
Aldehyde C-16	CAS No 77-83-8	1-<5	Skin Sens. 1B / H317	()
Linalool	CAS No 78-70-6	1-<5	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1B / H317 Flam. Liq. 4 / H227	()
Hexyl cinnamaldehyde	CAS No 165184-98-5 101-86-0	1 - < 5	Acute Tox. 4 / H332	
Ethyl Maltol	CAS No 4940-11-8	1 - < 5	Acute Tox. 4 / H302	
Allyl Caproate	CAS No 123-68-2	<1	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 Flam. Liq. 4 / H227	
L-Carvone	CAS No 6485-40-1	<1	Skin Sens. 1 / H317 Flam. Liq. 4 / H227	(!)
Methyl cinnamate	CAS No 103-26-4	<1	Skin Sens. 1B / H317	
β-pinene	CAS No 127-91-3 18172-67-3	<1	Skin Irrit. 2 / H315 Skin Sens. 1B / H317 Asp. Tox. 1 / H304 Flam. Liq. 3 / H226	



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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Allyl heptanoate	CAS No 142-19-8	<1	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Flam. Liq. 4 / H227	
citronellol	CAS No 106-22-9	<1	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1B / H317	()
α-pinene	CAS No 80-56-8	<1	Skin Irrit. 2 / H315 Skin Sens. 1 / H317 Asp. Tox. 1 / H304 Flam. Liq. 3 / H226	
Geranyl acetate	CAS No 105-87-3	<1	Skin Irrit. 2 / H315 Skin Sens. 1 / H317	

For full text of abbreviations: see SECTION 16.

## **SECTION 4: First-aid measures**

#### 4.1 Description of first- aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

#### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

#### Following skin contact

Wash with plenty of soap and water.

#### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

none



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## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

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

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

#### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

### **SECTION 6: Accidental release measures**

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

For non-emergency personnel

Remove persons to safety.

#### For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

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

Advice on how to contain a spill

Covering of drains

#### Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

#### Appropriate containment techniques

Use of adsorbent materials.

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.



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#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

#### Recommendations

#### - Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

#### - Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

#### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

#### Managing of associated risks

#### - Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

#### - Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

#### - Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

#### - Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.



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**SECTION 8: Exposure controls/personal protection** 

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

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Coun try	Name of agent	CAS No	Iden- tifier	TWA [ppm]	TWA [mg/ m³]	STEL [ppm]	STEL [mg/ m³]	Ceil- ing-C [ppm]	Ceil- ing-C [mg/ m³]	Nota tion	Sourc e
US	β-pinene	127-91-3	TLV®	20							AC- GIH® 2019
US	(2-methoxy- methylethoxy)pr opanol	34590- 94-8	TLV®	100		150					AC- GIH® 2019
US	dipropylene glycol methyl ether	34590- 94-8	PEL (CA)	100	600	150	900				Cal/ OSHA PEL
US	dipropylene glycol methyl ether	34590- 94-8	REL	100 (10 h)	600 (10 h)	150	900				NIOSH REL
US	dipropylene glycol methyl ether	34590- 94-8	PEL	100	600						29 CFR 1910.1 000
US	citral	5392-40- 5	TLV®	5						iv	AC- GIH® 2019
US	α-pinene	80-56-8	TLV®	20							AC- GIH® 2019

Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

iv inhalable fraction and vapor

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours timeweighted average (unless otherwise specified

Relevant DNELs of components of the mixture											
Name of substance	CAS No	End- point	Threshold level	Protection goal, route of exposure	Used in	Exposure time					
(2-methoxymethyl- ethoxy)propanol	34590-94-8	DNEL	308 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - system- ic effects					



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lame of substance	CAS No	End- point	Threshold level	Protection goal, route of exposure	Used in	Exposure tim
(2-methoxymethyl- ethoxy)propanol	34590-94-8	DNEL	283 mg/kg bw/day	human, dermal	worker (industry)	chronic - syster ic effects
(R)-p-mentha-1,8- diene	5989-27-5	DNEL	66.7 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syster ic effects
(R)-p-mentha-1,8- diene	5989-27-5	DNEL	9.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - syster ic effects
citral	5392-40-5	DNEL	9 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systei ic effects
citral	5392-40-5	DNEL	1.7 mg/kg bw/day	human, dermal	worker (industry)	chronic - syster ic effects
citral	5392-40-5	DNEL	140 µg/cm²	human, dermal	worker (industry)	chronic - local fects
Aldehyde C-16	77-83-8	DNEL	2.45 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syster ic effects
Aldehyde C-16	77-83-8	DNEL	0.7 mg/kg bw/day	human, dermal	worker (industry)	chronic - syster ic effects
Linalool	78-70-6	DNEL	2.8 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syster ic effects
Linalool	78-70-6	DNEL	16.5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - system effects
Linalool	78-70-6	DNEL	2.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - syster ic effects
Linalool	78-70-6	DNEL	5 mg/kg bw/day	human, dermal	worker (industry)	acute - system effects
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	DNEL	0.078 mg/ m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syster ic effects
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	DNEL	6.28 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local e fects
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	DNEL	18.2 mg/kg bw/day	human, dermal	worker (industry)	chronic - syster ic effects
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	DNEL	525 µg/cm²	human, dermal	worker (industry)	chronic - local fects
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	DNEL	525 µg/cm²	human, dermal	worker (industry)	acute - local e fects
Ethyl Maltol	4940-11-8	DNEL	58.7 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syster ic effects



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Jame of substance CAS No. End Throshold Distoction goal Used in Evacuum time											
ame of substance	CAS No	End- point	Threshold level	Protection goal, route of exposure	Used in	Exposure tin					
Ethyl Maltol	4940-11-8	DNEL	16.7 mg/kg bw/day	human, dermal	worker (industry)	chronic - syste ic effects					
Allyl Caproate	123-68-2	DNEL	15 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syste ic effects					
Allyl Caproate	123-68-2	DNEL	4.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - syste ic effects					
Methyl cinnamate	103-26-4	DNEL	28.2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syste ic effects					
Methyl cinnamate	103-26-4	DNEL	4 mg/kg bw/day	human, dermal	worker (industry)	chronic - syste ic effects					
β-pinene	127-91-3 18172-67-3	DNEL	5.69 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syste ic effects					
β-pinene	127-91-3 18172-67-3	DNEL	0.8 mg/kg bw/day	human, dermal	worker (industry)	chronic - syste ic effects					
β-pinene	127-91-3 18172-67-3	DNEL	54 µg/cm²	human, dermal	worker (industry)	chronic - local fects					
Allyl heptanoate	142-19-8	DNEL	2.97 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syste ic effects					
Allyl heptanoate	142-19-8	DNEL	0.84 mg/kg bw/day	human, dermal	worker (industry)	chronic - syste ic effects					
citronellol	106-22-9	DNEL	161.6 mg/ m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syste ic effects					
citronellol	106-22-9	DNEL	10 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local fects					
citronellol	106-22-9	DNEL	10 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local e fects					
citronellol	106-22-9	DNEL	327.4 mg/ kg bw/day	human, dermal	worker (industry)	chronic - syste ic effects					
citronellol	106-22-9	DNEL	2,950 μg/ cm²	human, dermal	worker (industry)	acute - local e fects					
α-pinene	80-56-8	DNEL	3.8 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syste ic effects					
α-pinene	80-56-8	DNEL	0.542 mg/ kg bw/day	human, dermal	worker (industry)	chronic - syste ic effects					
Geranyl acetate	105-87-3	DNEL	62.59 mg/ m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - syste ic effects					



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Relevant DNELs of	components	of the m	ixture			
Name of substance	CAS No	End- point	Threshold level	Protection goal, route of exposure	Used in	Exposure tim
Geranyl acetate	105-87-3	DNEL	35.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - syster ic effects
Relevant PNECs of	components	of the m	ixture			
Name of substance	CAS No	End- point	Threshold level	Organism	Environmental compartment	Exposure tim
(2-methoxymethyl- ethoxy)propanol	34590-94-8	PNEC	190 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent re lease
(2-methoxymethyl- ethoxy)propanol	34590-94-8	PNEC	19 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sing instance)
(2-methoxymethyl- ethoxy)propanol	34590-94-8	PNEC	1.9 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sing instance)
(2-methoxymethyl- ethoxy)propanol	34590-94-8	PNEC	4,168 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sing instance)
(2-methoxymethyl- ethoxy)propanol	34590-94-8	PNEC	70.2 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sing instance)
(2-methoxymethyl- ethoxy)propanol	34590-94-8	PNEC	7.02 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sing instance)
(2-methoxymethyl- ethoxy)propanol	34590-94-8	PNEC	2.74 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sin <u>c</u> instance)
(R)-p-mentha-1,8- diene	5989-27-5	PNEC	14 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sin <u>c</u> instance)
(R)-p-mentha-1,8- diene	5989-27-5	PNEC	1.4 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sing instance)
(R)-p-mentha-1,8- diene	5989-27-5	PNEC	1.8 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sing instance)
(R)-p-mentha-1,8- diene	5989-27-5	PNEC	3.85 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sing instance)
(R)-p-mentha-1,8- diene	5989-27-5	PNEC	0.385 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sing instance)
(R)-p-mentha-1,8- diene	5989-27-5	PNEC	0.763 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sing instance)
citral	5392-40-5	PNEC	0.007 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sing instance)
citral	5392-40-5	PNEC	0.001 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sing instance)



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Relevant PNECs of	components	s of the m	ixture			
Name of substance	CAS No	End- point	Threshold level	Organism	Environmental compartment	Exposure time
citral	5392-40-5	PNEC	1.6 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sing instance)
citral	5392-40-5	PNEC	0.125 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sing instance)
citral	5392-40-5	PNEC	0.013 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sing instance)
citral	5392-40-5	PNEC	0.021 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sing instance)
Aldehyde C-16	77-83-8	PNEC	23.3 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	water	short-term (sing instance)
Aldehyde C-16	77-83-8	PNEC	0.084 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent re lease
Aldehyde C-16	77-83-8	PNEC	0.008 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sing instance)
Aldehyde C-16	77-83-8	PNEC	8.4 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sing instance)
Aldehyde C-16	77-83-8	PNEC	10 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sing instance)
Aldehyde C-16	77-83-8	PNEC	0.214 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sing instance)
Aldehyde C-16	77-83-8	PNEC	0.021 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sing instance)
Aldehyde C-16	77-83-8	PNEC	0.038 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sing instance)
Linalool	78-70-6	PNEC	7.8 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	water	short-term (sing instance)
Linalool	78-70-6	PNEC	2 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent re lease
Linalool	78-70-6	PNEC	0.2 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sing instance)
Linalool	78-70-6	PNEC	0.02 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sing instance)
Linalool	78-70-6	PNEC	10 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sing instance)
Linalool	78-70-6	PNEC	2.22 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sing instance)



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Relevant PNECs of components of the mixture											
ame of substance	CAS No	End- point	Threshold level	Organism	Environmental compartment	Exposure tir					
Linalool	78-70-6	PNEC	0.222 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sir instance)					
Linalool	78-70-6	PNEC	0.327 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sir instance)					
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	PNEC	0.001 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sir instance)					
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	PNEC	0 <sup>mg</sup> /l	aquatic organisms	marine water	short-term (sir instance)					
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	PNEC	10 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sir instance)					
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	PNEC	3.2 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sir instance)					
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	PNEC	0.064 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sir instance)					
Hexyl cinnamalde- hyde	165184-98-5 101-86-0	PNEC	0.398 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sir instance)					
Ethyl Maltol	4940-11-8	PNEC	7.2 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sir instance)					
Ethyl Maltol	4940-11-8	PNEC	0.72 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sir instance)					
Ethyl Maltol	4940-11-8	PNEC	1.55 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sir instance)					
Ethyl Maltol	4940-11-8	PNEC	0.27 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sir instance)					
Ethyl Maltol	4940-11-8	PNEC	0.027 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sir instance)					
Ethyl Maltol	4940-11-8	PNEC	0.049 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sir instance)					
Allyl Caproate	123-68-2	PNEC	47.56 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	water	short-term (sir instance)					
Allyl Caproate	123-68-2	PNEC	1.17 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent i lease					
Allyl Caproate	123-68-2	PNEC	0.117 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sir instance)					
Allyl Caproate	123-68-2	PNEC	0.012 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sin instance)					



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Relevant PNECs of components of the mixture							
Name of substance	CAS No	End- point	Threshold level	Organism	Environmental compartment	Exposure time	
Allyl Caproate	123-68-2	PNEC	10 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (single instance)	
Allyl Caproate	123-68-2	PNEC	4.46 <sup>µg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (single instance)	
Allyl Caproate	123-68-2	PNEC	0.446 <sup>µg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)	
Allyl Caproate	123-68-2	PNEC	0.825 <sup>µg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (single instance)	
Methyl cinnamate	103-26-4	PNEC	2.76 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)	
Methyl cinnamate	103-26-4	PNEC	0.276 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single instance)	
Methyl cinnamate	103-26-4	PNEC	27.6 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent re- lease	
Methyl cinnamate	103-26-4	PNEC	1.81 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (single instance)	
Methyl cinnamate	103-26-4	PNEC	74 <sup>µg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (single instance)	
Methyl cinnamate	103-26-4	PNEC	7.4 <sup>µg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)	
Methyl cinnamate	103-26-4	PNEC	13 <sup>µg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (single instance)	
β-pinene	127-91-3 18172-67-3	PNEC	13.1 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	water	short-term (single instance)	
β-pinene	127-91-3 18172-67-3	PNEC	1.004 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)	
β-pinene	127-91-3 18172-67-3	PNEC	0.1 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single instance)	
β-pinene	127-91-3 18172-67-3	PNEC	3.26 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (single instance)	
β-pinene	127-91-3 18172-67-3	PNEC	0.337 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (single instance)	
β-pinene	127-91-3 18172-67-3	PNEC	0.034 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)	
β-pinene	127-91-3 18172-67-3	PNEC	0.067 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (single instance)	



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Relevant PNECs of components of the mixture							
lame of substance	CAS No	End- point	Threshold level	Organism	Environmental compartment	Exposure tim	
Allyl heptanoate	142-19-8	PNEC	51.78 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	water	short-term (sing instance)	
Allyl heptanoate	142-19-8	PNEC	1.2 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent re lease	
Allyl heptanoate	142-19-8	PNEC	0.12 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sin instance)	
Allyl heptanoate	142-19-8	PNEC	0.012 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sin instance)	
Allyl heptanoate	142-19-8	PNEC	10 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sin instance)	
Allyl heptanoate	142-19-8	PNEC	0.012 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sing instance)	
Allyl heptanoate	142-19-8	PNEC	0.001 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sin instance)	
Allyl heptanoate	142-19-8	PNEC	0.002 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sin instance)	
citronellol	106-22-9	PNEC	0.024 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent re lease	
citronellol	106-22-9	PNEC	0.002 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sin instance)	
citronellol	106-22-9	PNEC	0 <sup>mg</sup> /l	aquatic organisms	marine water	short-term (sin instance)	
citronellol	106-22-9	PNEC	580 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (sin instance)	
citronellol	106-22-9	PNEC	0.026 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (sin instance)	
citronellol	106-22-9	PNEC	0.003 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (sin instance)	
citronellol	106-22-9	PNEC	0.004 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (sin instance)	
α-pinene	80-56-8	PNEC	1.35 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	water	short-term (sin instance)	
α-pinene	80-56-8	PNEC	0.606 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (sin instance)	
α-pinene	80-56-8	PNEC	0.061 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (sin instance)	



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Relevant PNECs of	Relevant PNECs of components of the mixture								
Name of substance	CAS No	End- point	Threshold level	Organism	Environmental compartment	Exposure time			
α-pinene	80-56-8	PNEC	0.2 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (single instance)			
α-pinene	80-56-8	PNEC	157 <sup>µg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (single instance)			
α-pinene	80-56-8	PNEC	15.7 <sup>µg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)			
α-pinene	80-56-8	PNEC	31.7 <sup>µg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (single instance)			
Geranyl acetate	105-87-3	PNEC	37.2 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent re- lease			
Geranyl acetate	105-87-3	PNEC	3.72 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)			
Geranyl acetate	105-87-3	PNEC	0.372 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single instance)			
Geranyl acetate	105-87-3	PNEC	8 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treat- ment plant (STP)	short-term (single instance)			
Geranyl acetate	105-87-3	PNEC	0.442 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sedi- ment	short-term (single instance)			
Geranyl acetate	105-87-3	PNEC	0.044 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)			
Geranyl acetate	105-87-3	PNEC	0.086 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (single instance)			

## 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

### Eye/face protection

Wear eye/face protection.

#### Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.



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#### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## **SECTION 9: Physical and chemical properties**

## 9.1 Information on basic physical and chemical properties

### Appearance

Physical state	liquid
Color	various
Odor	characteristic

### Other safety parameters

not determined
not determined
189.6 °C at 760 mmHg
not determined
not determined
not relevant, (fluid)

### **Explosive limits**

- Lower explosion limit (LEL)	1.1 vol%
- Upper explosion limit (UEL)	14 vol%



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Vapor pressure	10 mmHg at 75.1 °C
Density	not determined
Vapor density	this information is not available
Relative density	information on this property is not available
Solubility(ies)	not determined
Partition coefficient	
- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none
Other information	there is no additional information

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

9.2

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

## **10.2** Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.



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#### 10.5 Incompatible materials

Oxidizers

#### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

### **SECTION 11: Toxicological information**

#### **11.1** Information on toxicological effects

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if swallowed.

#### Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ΑΤΕ
Hexyl cinnamaldehyde	165184-98-5 101-86-0	inhalation: vapor	11 <sup>mg</sup> / <sub>l</sub> /4h
Hexyl cinnamaldehyde	165184-98-5 101-86-0	inhalation: dust/mist	2.12 <sup>mg</sup> / <sub>l</sub> /4h
Ethyl Maltol	4940-11-8	oral	1,220 <sup>mg</sup> / <sub>kg</sub>
Allyl Caproate	123-68-2	oral	100 <sup>mg</sup> / <sub>kg</sub>
Allyl Caproate	123-68-2	dermal	820 <sup>mg</sup> / <sub>kg</sub>
Allyl Caproate	123-68-2	inhalation: vapor	3 <sup>mg</sup> /ı/4h
Allyl heptanoate	142-19-8	oral	218 <sup>mg</sup> / <sub>kg</sub>
Allyl heptanoate	142-19-8	dermal	810 <sup>mg</sup> / <sub>kg</sub>

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

### Respiratory or skin sensitization

May cause an allergic skin reaction.



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## Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans						
Name of substance CAS No Classification Number						
(R)-p-mentha-1,8-diene 5989-27-5 3						

#### Legend 3

Not classifiable as to carcinogenicity in humans

### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## SECTION 12: Ecological information

## 12.1 Toxicity

Г

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acu	Aquatic toxicity (acute) of components of the mixture							
Name of substance	Species	Exposure time						
(2-methoxymethyleth- oxy)propanol	34590-94-8	LC50	>1,000 <sup>mg</sup> / <sub>l</sub>	fish	96 h			
(2-methoxymethyleth- oxy)propanol	34590-94-8	ErC50	>969 <sup>mg</sup> / <sub>l</sub>	algae	72 h			
(2-methoxymethyleth- oxy)propanol	34590-94-8	EC50	>969 <sup>mg</sup> / <sub>l</sub>	algae	72 h			
(R)-p-mentha-1,8-diene	5989-27-5	LC50	720 <sup>µg</sup> / <sub>l</sub>	fish	96 h			
(R)-p-mentha-1,8-diene	5989-27-5	EC50	688 <sup>µg</sup> / <sub>l</sub>	fish	96 h			
(R)-p-mentha-1,8-diene	5989-27-5	ErC50	0.32 <sup>mg</sup> / <sub>l</sub>	algae	72 h			



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Aquatic toxicity (acute) of components of the mixture						
Name of substance	CAS No	Endpoint	Value	Species	Exposure time	
citral	5392-40-5	LC50	6.78 <sup>mg</sup> / <sub>l</sub>	fish	96 h	
citral	5392-40-5	EC50	6.8 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h	
citral	5392-40-5	ErC50	103.8 <sup>mg</sup> / <sub>l</sub>	algae	72 h	
Aldehyde C-16	77-83-8	LC50	4.2 <sup>mg</sup> / <sub>l</sub>	fish	96 h	
Aldehyde C-16	77-83-8	EC50	95 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	24 h	
Aldehyde C-16	77-83-8	ErC50	36 <sup>mg</sup> / <sub>l</sub>	algae	72 h	
Linalool	78-70-6	LC50	27.8 <sup>mg</sup> / <sub>l</sub>	fish	96 h	
Linalool	78-70-6	EC50	59 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h	
Linalool	78-70-6	ErC50	156.7 <sup>mg</sup> / <sub>l</sub>	algae	96 h	
Hexyl cinnamaldehyde	165184-98-5 101-86-0	LC50	1.7 <sup>mg</sup> / <sub>l</sub>	fish	96 h	
Hexyl cinnamaldehyde	165184-98-5 101-86-0	EC50	<0.59 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h	
Hexyl cinnamaldehyde	165184-98-5 101-86-0	ErC50	>0.065 <sup>mg</sup> / <sub>l</sub>	algae	72 h	
Ethyl Maltol	4940-11-8	LC50	>85 <sup>mg</sup> / <sub>l</sub>	fish	96 h	
Ethyl Maltol	4940-11-8	EC50	27 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h	
Ethyl Maltol	4940-11-8	ErC50	7.2 <sup>mg</sup> / <sub>l</sub>	algae	72 h	
Allyl Caproate	123-68-2	LC50	0.201 <sup>mg</sup> / <sub>l</sub>	fish	24 h	
Allyl Caproate	123-68-2	EC50	2 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h	
Allyl Caproate	123-68-2	ErC50	>4.6 <sup>mg</sup> / <sub>l</sub>	algae	72 h	
L-Carvone	6485-40-1	LC50	6.1 <sup>mg</sup> / <sub>l</sub>	fish	96 h	
L-Carvone	6485-40-1	EC50	38 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h	
L-Carvone	6485-40-1	ErC50	19 <sup>mg</sup> / <sub>l</sub>	algae	72 h	
Methyl cinnamate	103-26-4	LC50	2.76 <sup>mg</sup> / <sub>l</sub>	fish	96 h	
Methyl cinnamate	103-26-4	EC50	24 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h	
Methyl cinnamate	103-26-4	ErC50	7.6 <sup>mg</sup> / <sub>l</sub>	algae	72 h	



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Aquatic toxicity (acute) of components of the mixture							
Name of substance	CAS No	Endpoint	Value	Species	Exposure time		
β-pinene	127-91-3 18172-67-3	LC50	0.68 <sup>mg</sup> / <sub>l</sub>	fish	96 h		
β-pinene	127-91-3 18172-67-3	EC50	1.09 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h		
β-pinene	127-91-3 18172-67-3	ErC50	0.7 <sup>mg</sup> / <sub>l</sub>	algae	72 h		
Allyl heptanoate	142-19-8	LC50	0.201 <sup>mg</sup> / <sub>l</sub>	fish	24 h		
Allyl heptanoate	142-19-8	EC50	0.89 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h		
Allyl heptanoate	142-19-8	ErC50	>4.6 <sup>mg</sup> / <sub>l</sub>	algae	72 h		
citronellol	106-22-9	LC50	14.66 <sup>mg</sup> / <sub>l</sub>	fish	96 h		
citronellol	106-22-9	EC50	17.48 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h		
α-pinene	80-56-8	LC50	0.303 <sup>mg</sup> / <sub>l</sub>	fish	96 h		
α-pinene	80-56-8	EC50	0.475 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h		
Geranyl acetate	105-87-3	LC50	68.12 <sup>mg</sup> / <sub>l</sub>	fish	96 h		
Geranyl acetate	105-87-3	EC50	14.1 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h		
Geranyl acetate	105-87-3	ErC50	3.72 <sup>mg</sup> / <sub>l</sub>	algae	72 h		

Aquatic toxicity (chronic) of components of the mixture						
Name of substance	CAS No	Endpoint	Value	Species	Exposure time	
(2-methoxymethyleth- oxy)propanol	34590-94-8	LC50	>1,000 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	24 h	
(R)-p-mentha-1,8-diene	5989-27-5	EC50	<0.67 <sup>mg</sup> / <sub>l</sub>	fish	8 d	
(R)-p-mentha-1,8-diene	5989-27-5	LC50	0.41 <sup>mg</sup> / <sub>l</sub>	fish	8 d	
citral	5392-40-5	EC50	160 <sup>mg</sup> / <sub>l</sub>	microorganisms	30 min	
Aldehyde C-16	77-83-8	EC50	95 <sup>mg</sup> /l	aquatic invertebrates	24 h	
Linalool	78-70-6	LC50	27.8 <sup>mg</sup> / <sub>l</sub>	fish	24 h	
Linalool	78-70-6	EC50	>100 <sup>mg</sup> / <sub>l</sub>	microorganisms	30 min	



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Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Hexyl cinnamaldehyde	165184-98-5 101-86-0	EC50	>157 <sup>µg</sup> / <sub>l</sub>	aquatic invertebrates	21 d
Methyl cinnamate	103-26-4	EC50	181 <sup>mg</sup> / <sub>l</sub>	microorganisms	3 h
β-pinene	127-91-3 18172-67-3	EC50	326 <sup>mg</sup> / <sub>l</sub>	microorganisms	3 h
citronellol	106-22-9	EC50	>10,000 <sup>mg</sup> / <sub>l</sub>	microorganisms	30 min

## 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

**12.5 Results of PBT and vPvB assessment** Data are not available.

### 12.6 Other adverse effects

Endocrine disrupting potential

None of the ingredients are listed.

### **SECTION 13: Disposal considerations**

### 13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

#### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.



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SECTI 14.1 14.2	ION 14: Transport information UN number	
	UN number	
14.2		2319
	UN proper shipping name	Terpene hydrocarbons, n.o.s.
14.3	Transport hazard class(es)	
	Class	3 (flammable liquids)
14.4	Packing group	III (substance presenting low danger)
14.5	Environmental hazards	hazardous to the aquatic environment
	Environmentally hazardous substance (aquatic environment)	(R)-p-mentha-1,8-diene
14.6	<b>Special precautions for user</b> There is no additional information.	
14.7	<b>Transport in bulk according to Annex II of MAR</b> The cargo is not intended to be carried in bulk.	POL and the IBC Code
	Information for each of the UN Model Regulation	ons
	DOT	
	Transport of dangerous goods by road or rail (4	
	Index number	2319
	Proper shipping name	Terpene hydrocarbons, n.o.s.
	- Particulars in the shipper's declaration	UN2319, Terpene hydrocarbons, n.o.s., 3, III, envir- onmentally hazardous
	- Reportable quantity (RQ)	1,428,571 lbs (648,571 kg) (isopentyl acetate)
	Class	3
	Packing group	III
	Danger label(s)	3, fish and tree
	Environmental hazards	<b>Yes</b> (hazardous to the aquatic environment)
	Special provisions (SP)	B1, IB3, T4, TP1, TP29



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International Maritime Dangerous Goods Code (IN	/IDG)
UN number	2319
Proper shipping name	TERPENE HYDROCARBONS, N.O.S.
- Particulars in the shipper's declaration	UN2319, TERPENE HYDROCARBONS, N.O.S., 3, III, >23°C c.c., MARINE POLLUTANT
Class	3
Marine pollutant	<b>Yes</b> (hazardous to the aquatic environment)
Packing group	III
Danger label(s)	3, fish and tree
Special provisions (SP)	-
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, S-D
Stowage category	A
International Civil Aviation Organization (ICAO-IA	TA/DGR)
UN number	2319
Proper shipping name	Terpene hydrocarbons, n.o.s.
- Particulars in the shipper's declaration	UN2319, Terpene hydrocarbons, n.o.s., 3, III
Class	3
Environmental hazards	<b>Yes</b> (hazardous to the aquatic environment)
Packing group	III
Danger label(s)	3
•	
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 L



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## **SECTION 15: Regulatory information**

- 15.1 Safety, health and environmental regulations specific for the product in question
  - **National regulations (United States)**
  - Toxic Substance Control Act (TSCA)all ingredients are listed

## Superfund Amendment and Reauthorization Act (SARA TITLE III )

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313) none of the ingredients are listed

## Clean Air Act

none of the ingredients are listed

## **Right to Know Hazardous Substance List**

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name of substance	Name acc. to inventory	CAS No	Functional- ity	Authoritative Lists
(2-methoxymethylethoxy)pro- panol		34590-94-8	solvents	
(R)-p-mentha-1,8-diene	d-Limonene	5989-27-5	fragrance	EU Fragrance Allergens
Citral	Citral	5392-40-5	fragrance	EU Fragrance Allergens
Aldehyde C-16		77-83-8	fragrance	
Linalool	Linalool	78-70-6	fragrance	EU Fragrance Allergens
Hexyl cinnamaldehyde	Hexyl cinnam-aldehyde	101-86-0	fragrance	EU Fragrance Allergens
Linalyl acetate		115-95-7	fragrance	
Ethyl Maltol		4940-11-8	fragrance	
Allyl Caproate		123-68-2	fragrance	
L-Carvone		6485-40-1	fragrance	
Decanal		112-31-2	fragrance	
Methyl cinnamate		103-26-4	fragrance	
β-Pinene		127-91-3 18172-67-3	fragrance	
Allyl heptanoate		142-19-8	fragrance	



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Name of substance	Name acc. to inventory	CAS No	Functional- ity	Authoritative Lists
Benzyl benzoate	Benzyl benzoate	120-51-4	fragrance	EU Fragrance Allergens
p-Mentha-1,4-diene		99-85-4	fragrance	
p-Mentha-1,4(8)-diene		586-62-9	fragrance	
Citronellol	Citronellol	106-22-9	fragrance	EU Fragrance Allergens
Hexyl Acetate		142-92-7	fragrance	
α-Pinene		80-56-8	fragrance	
Isopentyl acetate		123-92-2	fragrance	
Geranyl acetate		105-87-3	fragrance	
Delta-Damascone		57378-68-4	fragrance	

### - Toxic or Hazardous Substance List (MA-TURA)

Name of substance	Name acc. to inventory	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Thres hold	De Minimis Concentra- tion Threshold
isopentyl acetate	iso-Amyl acetate	123-92-2				1.0 %

### - Hazardous Substances List (MN-ERTK)

Name of substance	Name acc. to inventory	CAS No	References	Remarks
(2-methoxymethylethoxy)pro- panol	Dipropylene glycol methyl ether	34590-94-8	Α, Ο	

 $\frac{\text{Legend}}{\text{A}}$ 

0

American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part

Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division

### - Hazardous Substance List (NJ-RTK)

Name of substance	Name acc. to inventory	CAS No	Remarks	Classifications
α-pinene	alpha-PINENE (BICYCLO[ 3.1.1]HEPT-2-ENE, 2,6,6-TRI- METHYL-)	80-56-8		F3
(2-methoxymethylethoxy)pro- panol	dipropylene glycol methyl ether	34590-94-8		F2
isopentyl acetate	isoamyl acetate	123-92-2		F3



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Name of substance	Name acc. to inventory	CAS No	Remarks	Classifications
(R)-p-mentha-1,8-diene	dipentene	138-86-3		F2
p-mentha-1,4(8)-diene	TERPINOLENE (CYCLOHEXENE, 1-METHYL-4-(1-METHYLETHYL- IDENE)-)	586-62-9		F3

Legend

Flammable - Second Degree Flammable - Third Degree F2 F3

## - Hazardous Substance List (Chapter 323) (PA-RTK)

Name of substance	Name acc. to inventory	CAS No	Classification
(2-methoxymethylethoxy)pro- panol	PROPANOL, (2-METHOXY- METHYLETHOXY)-	34590-94-8	
isopentyl acetate	1-BUTANOL, 3-METHYL-, ACET- ATE	123-92-2	E

Legend E

Environmental hazard

## - Hazardous Substance List (RI-RTK)

Name of substance	Name acc. to inventory	CAS No	References
(2-methoxymethylethoxy)pro- panol	Dipropylene glycol methyl ether	34590-94-8	Т
isopentyl acetate	Isoamyl acetate	123-92-2	т

Legend

Т Toxicity (ACGIH®)

## California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and **Toxic Enforcement Act of 1987**

none of the ingredients are listed

## Industry or sector specific available guidance(s)

## **NPCA-HMIS® III**

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	2	temporary or minor injury may occur



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Category	Rating	Description
Flammability	2	material that must be moderately heated or exposed to relatively high ambient tem- peratures before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with wa- ter, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

### **NFPA® 704**

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	2	material that must be moderately heated or exposed to relatively high ambient tem- peratures before ignition can occur
Health	2	material that, under emergency conditions, can cause temporary incapacitation or re- sidual injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

## **National inventories**

Country	Inventory	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	not all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed



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Country	Inventory	Status
US	TSCA	all ingredients are listed
Legend AICS CICR CSCL-ENCS DSL ECSI IECSC INSQ ISHA-ENCS KECI NZIOC PICCS REACH Reg. TCSI TSCA	Domestic Substances List (D EC Substance Inventory (EIN Inventory of Existing Chemi National Inventory of Chem Inventory of Existing and Ne Korea Existing Chemicals In New Zealand Inventory of C	Itrol Regulation mical Substances (CSCL-ENCS) SL) IECS, ELINCS, NLP) cal Substances Produced or Imported in China ical Substances we Chemical Substances (ISHA-ENCS) ventory hemicals nicals and Chemical Substances (PICCS) ss Inventory

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information, including date of preparation or last revision

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
3.2		Description of the mixture: change in the listing (table)	yes
8.1		Relevant DNELs of components of the mixture: change in the listing (table)	yes
8.1		Relevant PNECs of components of the mixture: change in the listing (table)	yes
11.1		Acute toxicity estimate (ATE) of components of the mixture: change in the listing (table)	yes
12.1		Aquatic toxicity (acute) of components of the mix- ture: change in the listing (table)	yes
12.1		Aquatic toxicity (chronic) of components of the mixture: change in the listing (table)	yes
15.1		Cleaning Product Right to Know Act Substance List (CA-RTK): change in the listing (table)	yes



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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
15.1		Toxic or Hazardous Substance List (MA-TURA): change in the listing (table)	yes
15.1		Hazardous Substances List (MN-ERTK): change in the listing (table)	yes
15.1		Hazardous Substance List (NJ-RTK): change in the listing (table)	yes
15.1		Hazardous Substance List (Chapter 323) (PA-RTK): change in the listing (table)	yes
15.1		Hazardous Substance List (RI-RTK): change in the listing (table)	yes

## Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Sub- stances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2019	From ACGIH®, 2019 TLVs® and BEIs® Book. Copyright 2019. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presenta-tions/tlv-bei-position-statement
Acute Tox.	Acute toxicity
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances



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Abbr.	Descriptions of used abbreviations
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
ΙΑΤΑ	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LHS	Lower hazard substance
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NLP	No-Longer Polymer
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
РВТ	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitization



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Abbr.	Descriptions of used abbreviations
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

#### **Classification procedure**

Physical and chemical properties: The classification is based on tested mixture. Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H226	Flammable liquid and vapor.
H227	Combustible liquid.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.