

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

1.1. Product identifier

Product form	: Mixture
Product name	: GRAPEFRUIT #EU37497F
UFI	: 69UA-S34U-H004-NNK2
Product code	: EU37497F
Type of product	: Perfumes, fragrances

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

FRENCH COLOR & FRAGRANCE International GmbH
Mittlerer Weg 35
DE- 79424 Auggen
Germany
T 49-7631-931-8900
SDS@frenchcolor.com - www.frenchcolor.com

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]

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment – Chronic Hazard, Category 3	H412
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

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

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

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Contains	: Grapefruit oil terpenes; Geraniol; Nerol; d-Limonene; Grapefruit oil; Citronellol Pure; Lime Oxide
Hazard statements (CLP)	: H304 - May be fatal if swallowed and enters airways. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. 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. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
Extra phrases	: For professional users only.

2.3. Other hazards

Contains no PBT/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 is 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]
Bis(2-ethylhexyl) adipate substance with national workplace exposure limit(s) (PL)	CAS-No.: 103-23-1 EC-No.: 203-090-1 REACH-no: 01-2119439699-19	36.6 – 73.25	Not classified
Grapefruit oil terpenes	CAS-No.: 68917-32-8 EC-No.: 289-904-6	4.9 – 9.8	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Grapefruit oil	CAS-No.: 8016-20-4 EC-No.: 289-904-6;600-007-4	0.28 – 2.1	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Geraniol	CAS-No.: 106-24-1 EC-No.: 203-377-1 EC Index-No.: 603-241-00-5 REACH-no: 01-2119552430-49	0.84 – 1.68	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
d-Limonene substance with national workplace exposure limit(s) (DE, ES, FI, SI, NO, CH)	CAS-No.: 5989-27-5 EC-No.: 227-813-5 EC Index-No.: 601-029-00-7;601-096-00-2 REACH-no: 01-2119493353-35	0.35 – 1.4	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Nerol	CAS-No.: 106-25-2 EC-No.: 203-378-7	0.56 – 1.12	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Citronellol Pure	CAS-No.: 106-22-9 EC-No.: 203-375-0 REACH-no: 01-2119453995-23	0.5 – 1.05	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Hexamethylindanopyran	CAS-No.: 1222-05-5 EC-No.: 214-946-9 EC Index-No.: 603-212-00-7 REACH-no: 01-2119488227-29	0.5 – 1.05	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Methyl pamplemousse	CAS-No.: 67674-46-8	0.5 – 1.05	Aquatic Chronic 3, H412 Skin Irrit. 2, H315
Lime Oxide	CAS-No.: 73018-51-6 EC-No.: 277-225-8	0.1 – 0.15	Flam. Liq. 3, H226 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Allyl caproate	CAS-No.: 123-68-2 EC-No.: 204-642-4 REACH-no: 01-2119983573-26	0.1 – 0.15	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
.alpha.-Pinene substance with national workplace exposure limit(s) (BE, EE, ES, LT, PT, SE, NO)	CAS-No.: 80-56-8 EC-No.: 201-291-9	< 0.028	Flam. Liq. 3, H226

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	: 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 immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. 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.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Do not induce vomiting. Call a physician immediately.

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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.
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.
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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. Evacuate unnecessary personnel. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.
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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.

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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.
- 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

Bis(2-ethylhexyl) adipate (103-23-1)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	400 mg/m ³
d-Limonene (5989-27-5)	
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	140 mg/m ³
HTP (OEL TWA) [2]	25 ppm
HTP (OEL STEL)	280 mg/m ³
HTP (OEL STEL) [ppm]	50 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	28 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
AGW (OEL TWA) [2]	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
Slovenia - Occupational Exposure Limits	
OEL TWA	28 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	112 mg/m ³

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d-Limonene (5989-27-5)	
OEL STEL [ppm]	20 ppm
OEL chemical category	Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	168 mg/m ³
VLA-ED (OEL TWA) [2]	30 ppm
OEL chemical category	Sensitizer, skin - potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grønseverdi (OEL TWA) [1]	140 mg/m ³
Grønseverdi (OEL TWA) [2]	25 ppm
Korttidsverdi (OEL STEL)	175 mg/m ³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	37.5 ppm (value calculated)
OEL chemical category	Allergenic substance
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	40 mg/m ³
MAK (OEL TWA) [2]	7 ppm
KZGW (OEL STEL)	80 mg/m ³
KZGW (OEL STEL) [ppm]	14 ppm
OEL chemical category	Sensitizer
.alpha.-Pinene (80-56-8)	
Belgium - Occupational Exposure Limits	
OEL TWA [ppm]	20 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	150 mg/m ³
OEL TWA [ppm]	25 ppm
OEL STEL	300 mg/m ³
OEL STEL [ppm]	50 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	150 mg/m ³
IPRV (OEL TWA) [ppm]	25 ppm
TPRV (OEL STEL)	300 mg/m ³
TPRV (OEL STEL) [ppm]	50 ppm
Portugal - Occupational Exposure Limits	
OEL TWA [ppm]	20 ppm (Turpentine and selected Monoterpenes)
OEL chemical category	Sensitizer, A4 - Not Classifiable as a Human Carcinogen
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	113 mg/m ³
VLA-ED (OEL TWA) [2]	20 ppm
OEL chemical category	Sensitizer

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.alpha.-Pinene (80-56-8)	
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	150 mg/m ³
NGV (OEL TWA) [ppm]	25 ppm
KTV (OEL STEL)	300 mg/m ³
KTV (OEL STEL) [ppm]	50 ppm
OEL chemical category	Sensitizer
Norway - Occupational Exposure Limits	
Grønseverdi (OEL TWA) [1]	140 mg/m ³
Grønseverdi (OEL TWA) [2]	25 ppm
Korttidsverdi (OEL STEL)	175 mg/m ³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	37.5 ppm (value calculated)
OEL chemical category	Skin notation
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	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

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

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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	: light yellow. amber.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 70 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
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	: ≈ 1.03
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.

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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) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Bis(2-ethylhexyl) adipate (103-23-1)

LD50 oral rat	5600 mg/kg
LD50 dermal rabbit	8410 mg/kg
LC50 Inhalation - Rat	> 5.7 mg/l/4h

Geraniol (106-24-1)

LD50 oral rat	3600 mg/kg
LD50 oral	3600 mg/kg bodyweight
LD50 dermal rabbit	> 5 g/kg

Nerol (106-25-2)

LD50 oral rat	4500 mg/kg
LD50 oral	4500 mg/kg bodyweight
LD50 dermal rabbit	> 5 g/kg

d-Limonene (5989-27-5)

LD50 oral rat	4400 mg/kg
LD50 dermal rabbit	> 5 g/kg

Grapefruit oil (8016-20-4)

LD50 oral rat	> 5 g/kg
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.alpha.-Pinene (80-56-8)

LD50 oral rat	3700 mg/kg
LD50 oral	500 mg/kg bodyweight
LD50 dermal rat	> 5000 mg/kg

Citronellol Pure (106-22-9)

LD50 oral rat	3450 mg/kg
LD50 oral	3450 mg/kg bodyweight
LD50 dermal rabbit	2650 mg/kg

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Citronellol Pure (106-22-9)	
LD50 dermal	2650 mg/kg bodyweight
Hexamethylindanopyran (1222-05-5)	
LD50 oral rat	> 3250 mg/kg
LD50 dermal rabbit	> 3250 mg/kg
Allyl caproate (123-68-2)	
LD50 oral	300 mg/kg bodyweight
LD50 dermal rabbit	820 mg/kg
LD50 dermal	300 mg/kg bodyweight
LC50 Inhalation - Rat (Vapours)	3 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Bis(2-ethylhexyl) adipate (103-23-1)	
IARC group	3 - Not classifiable

d-Limonene (5989-27-5)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.

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
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.

Bis(2-ethylhexyl) adipate (103-23-1)	
LC50 - Fish [1]	0.48 – 0.85 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 - Fish [2]	0.48 – 0.85 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 - Crustacea [1]	> 1.6 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	> 500 mg/l (Species: Desmodesmus subspicatus)

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Geraniol (106-24-1)	
LC50 - Fish [1]	22 mg/l (Exposure time: 96 h - Species: Danio rerio [static])
Nerol (106-25-2)	
LC50 - Fish [1]	20.3 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static])
d-Limonene (5989-27-5)	
LC50 - Fish [1]	0.619 – 0.796 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	35 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
.alpha.-Pinene (80-56-8)	
LC50 - Fish [1]	0.28 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [1]	41 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Hexamethylindanopyran (1222-05-5)	
LC50 - Fish [1]	0.452 mg/l Wolf, 1996d-27682
LC50 - Other aquatic organisms [1]	> 0.14 mg/l REACH DOSSIER Pimephales promelas
EC50 - Crustacea [2]	260 µg/l REACH Dossier
EC50 - Other aquatic organisms [1]	0.131 mg/l REACH Dossier
Allyl caproate (123-68-2)	
LC50 - Fish [1]	0.117 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static])
12.2. Persistence and degradability	
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Persistence and degradability	Not established.
12.3. Bioaccumulative potential	
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Bioaccumulative potential	Not established.
Bis(2-ethylhexyl) adipate (103-23-1)	
BCF - Fish [1]	(27 dimensionless)
Partition coefficient n-octanol/water (Log Pow)	8.94 (at 25 °C)
Geraniol (106-24-1)	
Partition coefficient n-octanol/water (Log Pow)	2.6 (at 25 °C)
Nerol (106-25-2)	
Partition coefficient n-octanol/water (Log Pow)	2.76 (at 30 °C (at pH 6.5))
d-Limonene (5989-27-5)	
Partition coefficient n-octanol/water (Log Pow)	4.38 (at 37 °C (at pH 7.2))
.alpha.-Pinene (80-56-8)	
Partition coefficient n-octanol/water (Log Pow)	4.1
Citronellol Pure (106-22-9)	
Partition coefficient n-octanol/water (Log Pow)	3.41 (at 25 °C)

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Hexamethylindanopyran (1222-05-5)	
BCF - Fish [1]	(1618 dimensionless (whole body w.w.))
Partition coefficient n-octanol/water (Log Pow)	5.3 (at 25 °C (at pH 7))
Methyl pamplemousse (67674-46-8)	
Partition coefficient n-octanol/water (Log Pow)	3.8 (at 35 °C (at pH 7))
Lime Oxide (73018-51-6)	
Partition coefficient n-octanol/water (Log Pow)	3.3 – 4.9 (at 35 °C (at pH 7))
Allyl caproate (123-68-2)	
Partition coefficient n-octanol/water (Log Pow)	3.191 (at 20 °C (at pH 5))

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.
Ecology - waste materials	: Avoid release to the environment.
HP Code	: HP3 - "Flammable:" – flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C; – flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air; – flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction; – flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa; – water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities; – other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste. 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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

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ADR	IMDG	IATA	ADN	RID
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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)	Grapefruit oil terpenes ; d-Limonene ; Grapefruit oil ; .alpha.-Pinene ; Lime Oxide	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
3(b)	GRAPEFRUIT #EU37497F ; Grapefruit oil terpenes ; Geraniol ; Nerol ; d-Limonene ; Grapefruit oil ; Citronellol Pure ; Methyl pamplemousse ; Lime Oxide ; Allyl caproate	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

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EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(c)	GRAPEFRUIT #EU37497F ; Grapefruit oil terpenes ; d-Limonene ; Grapefruit oil ; Hexamethylindanopyran ; Methyl pamplemousse ; Lime Oxide ; Allyl caproate	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
40.	Grapefruit oil terpenes ; d-Limonene ; Grapefruit oil ; .alpha.-Pinene ; Lime Oxide	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.

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)

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)

Drug Precursors Regulation (273/2004)

Contains no 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)

15.1.2. National regulations

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 of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category : A(2) - toxic for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen : Grapefruit oil terpenes,Grapefruit oil,Lime Oxide are listed
SZW-lijst van mutagene stoffen : Grapefruit oil terpenes,Grapefruit oil,Lime Oxide 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 : None of the components are 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

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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. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
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. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H301	Toxic 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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
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.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B

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.