

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

1.1. Product identifier

Product form	: Mixture
Trade name	: FRUIT OF THE FOREST #EU20857F
UFI	: 0PRU-N1T4-W009-G40H
Product code	: EU20857F
Type of product	: Perfumes, fragrances
Product group	: Trade product

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

Relevant identified uses

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

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
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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 2	H411

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

Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation. May be fatal if swallowed and enters airways. Toxic 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

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Contains	: Damascone Beta; Ginger oil; delta-Damascone; Lime oil distilled ; Isoeugenol; Cornmint oil (redist); Cinnamic aldehyde; Eugenol; beta-Caryophyllene; Aldehyde C-16; Orange oil
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. H411 - Toxic 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.

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

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Cinnamic aldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9 EC Index-No.: 606-155-00-6 REACH-no: 01-2119935242-45	8.02 – 16.1	Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 3, H412
Orange oil	CAS-No.: 8008-57-9 EC-No.: 232-433-8 REACH-no: 01-2119493353-35	8 – 16	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1 REACH-no: 01-2119971802-33	2.3 – 4.8	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Verdox	CAS-No.: 88-41-5 EC-No.: 201-828-7 REACH-no: 01-2119970713-33	1.4 – 2.8	Aquatic Chronic 2, H411
beta-Ionone	CAS-No.: 14901-07-6 EC-No.: 238-969-9	1.2 – 2.4	Aquatic Chronic 2, H411
Aldehyde C-16	CAS-No.: 77-83-8 EC-No.: 201-061-8 REACH-no: 01-2119967770-28	1.2 – 2.4	Skin Sens. 1B, H317 Aquatic Chronic 2, H411

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2(3H)-Furanone, 5-heptyldihydro-	CAS-No.: 104-67-6 EC-No.: 203-225-4 REACH-no: 01-2119959333-34	0.8 – 1.6	Aquatic Chronic 3, H412
Oxypheylon (Raspberry ketone) crystals	CAS-No.: 5471-51-2 EC-No.: 226-806-4	0.6 – 1.2	Acute Tox. 4 (Oral), H302
Benzaldehyde substance with national workplace exposure limit(s) (BG, FI, HU, LT, LV, PL)	CAS-No.: 100-52-7 EC-No.: 202-860-4 EC Index-No.: 605-012-00-5 REACH-no: 01-2119455540-44	0.3 – 0.6	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361 STOT SE 3, H335
beta-Caryophyllene	CAS-No.: 87-44-5 EC-No.: 201-746-1 REACH-no: 01-2120745237-53	0.22 – 0.6	Asp. Tox. 1, H304 Skin Sens. 1B, H317
isoeugenol	CAS-No.: 97-54-1 EC-No.: 202-590-7 EC Index-No.: 604-094-00-X; 202-590-1 REACH-no: 17-2119417630-49	0.2 – 0.4	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 Carc. 2, H351 STOT SE 3, H335
Cornmint oil (redist)	CAS-No.: 68917-18-0 EC-No.: 294-486-3	0.2 – 0.4	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Lime oil distilled	CAS-No.: 8008-26-2 EC-No.: 290-010-3 REACH-no: 01-2120138646-51	0.1 – 0.15	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
Damascone Beta	CAS-No.: 23726-92-3 EC-No.: 245-843-7	0.1 – 0.1	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 2, H411
Ginger oil	CAS-No.: 8007-08-7 EC-No.: 283-634-2	0.1 – 0.1	Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
delta-Damascone	CAS-No.: 57378-68-4 EC-No.: 260-709-8	0.1 – 0.1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 1, H410
(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	< 0.008	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 3, H412

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
.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	< 0.008	Flam. Liq. 3, H226
.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	< 0.008	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
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

Specific concentration limits:		
Name	Product identifier	Specific concentration limits (%)
Cinnamic aldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9 EC Index-No.: 606-155-00-6 REACH-no: 01-2119935242-45	(0.001 < C < 0.01) EUH208 (0.01 ≤ C < 0.1) Skin Sens. 1; H317 (0.1 ≤ C < 100) Skin Sens. 1A; H317
isoeugenol	CAS-No.: 97-54-1 EC-No.: 202-590-7 EC Index-No.: 604-094-00-X; 202-590-1 REACH-no: 17-2119417630-49	(0.01 ≤ C ≤ 100) Skin Sens. 1A; H317

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	: 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 with plenty of water/.... Wash contaminated clothing before reuse. Get medical advice/attention. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. 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	: If eye irritation persists: Get medical advice/attention. 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. Immediately call a POISON CENTER/doctor. Obtain emergency medical attention. Do not induce vomiting. Call a physician immediately.

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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	: Causes skin irritation. Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation. Eye irritation.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways. 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

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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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.

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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. No open flames. No smoking. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.
- Hygiene measures : Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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. Keep in fireproof place. Store locked up. Store in a well-ventilated place. Keep cool.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.
- 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

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Safety glasses

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Wear protective gloves.

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Respiratory protection

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. Wear appropriate mask

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, Combustible liquid
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 74 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 20.5 mm ² /s
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 0.004013807 mm Hg (calculated value)
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

Other safety characteristics

VOC content : 18.26712 % (calculated value)(CARB VOC) (%w/w)

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

Combustible liquid. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Strong acids. Strong bases.

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

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

Damascone Beta (23726-92-3)

LD50 oral	2920 mg/kg bodyweight
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Alcohol C-10 (112-30-1)

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)

Aldehyde C-6 (66-25-1)

LD50 oral rat	4890 mg/kg (Source: NLM_CIP)
LD50 dermal rabbit	> 8100 mg/kg (Source: ECHA_API)

Ginger oil (8007-08-7)

LD50 oral rat	> 5 g/kg (Source: NLM_CIP)
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delta-Damascone (57378-68-4)

LD50 oral	1400 mg/kg bodyweight
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Lime oil distilled (8008-26-2)

LD50 oral rat	5600 mg/kg
LD50 dermal rabbit	> 5000 mg/kg

isoeugenol (97-54-1)

LD50 oral rat	1560 mg/kg (Source: NLM_CIP)
LD50 oral	1500 mg/kg bodyweight
LD50 dermal	1912 mg/kg bodyweight

Cornmint oil (redist) (68917-18-0)

LD50 oral rat	1240 mg/kg (Source: NZ_CCID)
LD50 oral	1200 mg/kg bodyweight

Benzaldehyde (100-52-7)

LD50 oral rat	1292 mg/kg (Source: JAPAN_GHS)
LD50 dermal rabbit	> 1250 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation - Rat	< 5 mg/l/4h

Cinnamic aldehyde (104-55-2)

LD50 oral rat	2220 mg/kg (Source: NLM_CIP)
LD50 oral	2220 mg/kg
LD50 dermal rabbit	1260 mg/kg (Source: EPA_HPVS)

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Cinnamic aldehyde (104-55-2)	
LD50 dermal	1260 mg/kg
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
LD50 oral rat	4400 mg/kg (Source: CHEMVIEW)
LD50 dermal rabbit	> 5 g/kg (Source: CHEMVIEW)
Eugenol (97-53-0)	
LD50 oral rat	1930 mg/kg (Source: NZ_CCID)
LD50 oral	2500 mg/kg bodyweight
LC50 Inhalation - Rat	> 2.58 mg/l/4h
.beta.-Pinene (127-91-3)	
LD50 oral rat	> 5000 mg/kg (Source: EPA_HPV)
LD50 dermal rabbit	> 5000 mg/kg (Source: CHEMVIEW)
.alpha.-Pinene (80-56-8)	
LD50 oral rat	3700 mg/kg (Source: NLM_CIP)
LD50 dermal rat	> 5000 mg/kg (Source: CHEMVIEW)
Oxyphellon (Raspberry ketone) crystals (5471-51-2)	
LD50 oral rat	1320 mg/kg (Source: NLM_CIP)
LD50 dermal rat	> 2000 mg/kg (Source: ECHA_API)
2(3H)-Furanone, 5-heptyldihydro- (104-67-6)	
LD50 oral rat	18500 mg/kg (Source: NLM_CIP)
LD50 dermal rat	> 2000 mg/kg (Source: ECHA)
beta-Ionone (14901-07-6)	
LD50 oral rat	4590 mg/kg (Source: NLM_HSDB)
LD50 oral	3940 mg/kg bodyweight
Aldehyde C-16 (77-83-8)	
LD50 oral rat	5470 mg/kg (Source: NLM_CIP)
LD50 dermal rat	> 2000 mg/kg (Source: ECHA_API)
Verdox (88-41-5)	
LD50 oral rat	4600 mg/kg (Source: NLM_CIP)
LD50 oral	4600 mg/kg
Orange oil (8008-57-9)	
LD50 oral rat	4400 mg/kg (Source: NZ_CCID)
LD50 dermal rabbit	> 5000 mg/kg (Source: CHEMVIEW)
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

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

isoeugenol (97-54-1)	
IARC group	2B - Possibly carcinogenic to humans
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
IARC group	3 - Not classifiable
Eugenol (97-53-0)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
isoeugenol (97-54-1)	
STOT-single exposure	May cause respiratory irritation.
Benzaldehyde (100-52-7)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
FRUIT OF THE FOREST #EU20857F	
Viscosity, kinematic	20.5 mm ² /s
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Hydrocarbon	Yes
.beta.-Pinene (127-91-3)	
Hydrocarbon	Yes
.alpha.-Pinene (80-56-8)	
Hydrocarbon	Yes
beta-Caryophyllene (87-44-5)	
Hydrocarbon	Yes

11.2. Information on other hazards

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

Alcohol C-10 (112-30-1)	
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)

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Alcohol C-10 (112-30-1)	
EC50 - Crustacea [1]	3 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Aldehyde C-6 (66-25-1)	
LC50 - Fish [1]	12 – 16.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
Benzaldehyde (100-52-7)	
LC50 - Fish [1]	10.6 – 11.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through] Source: EPA)
LC50 - Fish [2]	12.69 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static] Source: IUCLID)
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
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)
Eugenol (97-53-0)	
LC50 - Fish [1]	13 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static] Source: ECHA)
.alpha.-Pinene (80-56-8)	
LC50 - Fish [1]	0.28 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: IUCLID)
EC50 - Crustacea [1]	41 mg/l (Exposure time: 48 h - Species: Daphnia magna)
2(3H)-Furanone, 5-heptyldihydro- (104-67-6)	
LC50 - Fish [1]	569 mg/l 96 h
EC50 - Crustacea [1]	5.85 mg/l 48 h
EC50 - Other aquatic organisms [1]	5.94 mg/l 72 h
Aldehyde C-16 (77-83-8)	
LC50 - Fish [1]	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static] Source: ECHA)
12.2. Persistence and degradability	
FRUIT OF THE FOREST #EU20857F	
Persistence and degradability	Not established.
Damascone Beta (23726-92-3)	
Persistence and degradability	Rapidly degradable
Alcohol C-10 (112-30-1)	
Persistence and degradability	Rapidly degradable
Aldehyde C-6 (66-25-1)	
Persistence and degradability	Rapidly degradable
Ginger oil (8007-08-7)	
Persistence and degradability	Rapidly degradable
delta-Damascone (57378-68-4)	
Persistence and degradability	Rapidly degradable

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Lime oil distilled (8008-26-2)	
Persistence and degradability	Rapidly degradable
isoeugenol (97-54-1)	
Persistence and degradability	Rapidly degradable
Cornmint oil (redist) (68917-18-0)	
Persistence and degradability	Rapidly degradable
Benzaldehyde (100-52-7)	
Persistence and degradability	Rapidly degradable
Cinnamic aldehyde (104-55-2)	
Persistence and degradability	Rapidly degradable
(R)-p-mentha-1,8-diene; d-limonene (5989-27-5)	
Persistence and degradability	Rapidly degradable
Eugenol (97-53-0)	
Persistence and degradability	Rapidly degradable
.beta.-Pinene (127-91-3)	
Persistence and degradability	Rapidly degradable
.alpha.-Pinene (80-56-8)	
Persistence and degradability	Rapidly degradable
beta-Caryophyllene (87-44-5)	
Persistence and degradability	Rapidly degradable
Oxyphellon (Raspberry ketone) crystals (5471-51-2)	
Persistence and degradability	Rapidly degradable
2(3H)-Furanone, 5-heptyldihydro- (104-67-6)	
Persistence and degradability	Rapidly degradable
beta-Ionone (14901-07-6)	
Persistence and degradability	Rapidly degradable
Aldehyde C-16 (77-83-8)	
Persistence and degradability	Rapidly degradable
Verdox (88-41-5)	
Persistence and degradability	Rapidly degradable
Orange oil (8008-57-9)	
Persistence and degradability	Rapidly degradable
12.3. Bioaccumulative potential	
FRUIT OF THE FOREST #EU20857F	
Bioaccumulative potential	Not established.

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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))
Benzaldehyde (100-52-7)	
BCF - Fish [1]	(no significant bioaccumulation)
Partition coefficient n-octanol/water (Log Pow)	1.4 (at 25 °C)
Cinnamic aldehyde (104-55-2)	
Partition coefficient n-octanol/water (Log Pow)	2.1065 (at 25 °C)
(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))
Eugenol (97-53-0)	
Partition coefficient n-octanol/water (Log Pow)	1.83 (at 30 °C (at pH 5.5))
.beta.-Pinene (127-91-3)	
Partition coefficient n-octanol/water (Log Pow)	4.4 (at 25 °C)
.alpha.-Pinene (80-56-8)	
Partition coefficient n-octanol/water (Log Pow)	4.1
beta-Caryophyllene (87-44-5)	
Partition coefficient n-octanol/water (Log Pow)	6.23 (at 25 °C (at pH 7))
Oxypheylon (Raspberry ketone) crystals (5471-51-2)	
Partition coefficient n-octanol/water (Log Pow)	1.33 (at 20 °C)
2(3H)-Furanone, 5-heptyldihydro- (104-67-6)	
Partition coefficient n-octanol/water (Log Pow)	3.6 (at 25 °C)
beta-Ionone (14901-07-6)	
Partition coefficient n-octanol/water (Log Pow)	1.903 (at 27 °C (at pH 5.7))
Aldehyde C-16 (77-83-8)	
Partition coefficient n-octanol/water (Log Pow)	2.4 (at 25 °C (cis isomer))
Orange oil (8008-57-9)	
Partition coefficient n-octanol/water (Log Pow)	≥ 2.78 – ≤ 4.88

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

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

12.7. Other adverse effects

FRUIT OF THE FOREST #EU20857F

Other 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. Dispose of contents/container in accordance with local/national laws and regulations.
Ecological waste information	: Avoid release to the environment. Hazardous waste due to toxicity.
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. 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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil)	Environmentally hazardous substance, liquid, n.o.s. (Orange Oil)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil)
Transport document description				
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Orange Oil), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Orange Oil), 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

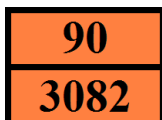
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes EmS-No. (Fire): F-A EmS-No. (Spillage): S-F	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
Orange plates	:



Tunnel restriction code (ADR)

: -

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
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

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(a)	Orange oil ; d-Limonene ; .beta.-Pinene ; .alpha.-Pinene ; Lime oil distilled ; Aldehyde C-6	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)	FRUIT OF THE FOREST #EU20857F ; Orange oil ; Cinnamic aldehyde ; Eugenol ; Aldehyde C-16 ; d-Limonene ; .alpha.-Pinene ; beta-Caryophyllene ; Benzaldehyde ; Commint oil (redist) ; Isoeugenol ; Lime oil distilled ; delta-Damascone ; Ginger oil ; Damascone Beta	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

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(c)	FRUIT OF THE FOREST #EU20857F ; Orange oil ; Cinnamic aldehyde ; Verdox ; Aldehyde C-16 ; beta-Ionone ; Aldehyde C-14 ; d-Limonene ; .alpha.-Pinene ; Cornmint oil (redist) ; Lime oil distilled ; delta-Damascone ; Ginger oil ; Damascone Beta ; Alcohol C-10	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 (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

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

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

VOC content : 18.26712 % (calculated value)(CARB VOC) (%w/w)

Explosives Precursors Regulation (EU 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 (EC 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)

15.2. 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 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
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
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3

FRUIT OF THE FOREST #EU20857F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Full text of H- and EUH-statements:	
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
EUH208	Contains {0 message≤name of sensitising substance> fieldvalue=_SENSITIZER_COMPONENTS}. May produce an allergic reaction.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
Skin Sens. 1B	Skin sensitisation, category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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.