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

1.1. Product identifier

Product form	:	Mixture
Product name	:	FO Carnation
UFI	:	G3PD-E1VR-000G-5H6S
Product code	:	21103
Product group	:	Trade product

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

Relevant identified uses

Intended for general public

Main use category	:	Professional use,Consumer use
Use of the substance/mixture	:	Fragrance raw material

1.3. Details of the supplier of the safety data sheet

De Hekserij
Spoorstraat 57
8271 RG IJsselmuiden
Nederland
www.hekserij.nl

1.4. Emergency telephone number

No additional information available

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
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

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07

Signal word (CLP)	:	Warning
Contains	:	Benzyl salicylate ; Phenyl ethyl alcohol; Linalyl acetate; Geraniol; Limonene D- (nat); Hexyl cinnamal; Isoeugenol; Eugenol; Citronellol; Linalool; Geranyl acetate; Guaiacwood acetate; Vertofix Coeur (IFF)
Hazard statements (CLP)	:	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, spray, vapours. 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 clothing, eye protection, face protection, protective gloves. P302+P352 - IF ON SKIN: Wash with plenty of water. P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
EUH-statements	:	EUH208 - Contains Benzyl salicylate, Linalyl acetate, Geraniol, Limonene D- (nat), Hexyl cinnamal, Isoeugenol, Eugenol, Citronellol, Linalool, Geranyl acetate, Guaiacwood acetate, Vertofix Coeur (IFF). May produce an allergic reaction.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 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]
Benzyl salicylate	CAS-No.: 118-58-1 EC-No.: 204-262-9 EC Index-No.: 607-754-00-5 REACH-no: 01-2119969442-31	15 – 20	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Phenyl ethyl alcohol	CAS-No.: 60-12-8 EC-No.: 200-456-2	5 – 10	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
Linalyl acetate	CAS-No.: 115-95-7 EC-No.: 204-116-4 REACH-no: 01-2119454789-19	5 – 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Geraniol	CAS-No.: 106-24-1 EC-No.: 203-377-1 REACH-no: 01-2119552430-49	0 – 5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317
Limonene D- (nat)	CAS-No.: 5989-27-5 EC-No.: 227-813-5 EC Index-No.: 601-096-00-2	0 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
gamma-Methyl ionone	CAS-No.: 1335-46-2 EC-No.: 215-635-0 REACH-no: 01-2119471851-35	0 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 2, H411
para-Methyl cresol	CAS-No.: 104-93-8 EC-No.: 203-253-7 REACH-no: 01-2119513371-52	0 – 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Butyl Hydroxy Toluene (BHT)	CAS-No.: 128-37-0 EC-No.: 204-881-4 REACH-no: 01-2119565113-46	0 – 5	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Terpineol	CAS-No.: 8000-41-7 EC-No.: 232-268-1 REACH-no: 01-2119553062-49	0 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Hexyl cinnamal	CAS-No.: 101-86-0 EC-No.: 202-983-3 REACH-no: 01-2119533092-50	0 – 5	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Isoeugenol	CAS-No.: 5932-68-3; 97-54-1 EC-No.: 227-678-2; 202-590-7	0 – 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 Skin Sens. 1A, H317 STOT SE 3, H335
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1	0 – 5	Eye Irrit. 2, H319 Skin Sens. 1B, H317
Citronellol	CAS-No.: 106-22-9 EC-No.: 203-375-0 REACH-no: 01-2119453995-23	0 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Linalool	CAS-No.: 78-70-6 EC-No.: 201-134-4 EC Index-No.: 603-235-00-2 REACH-no: 01-2119474016-42	0 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Geranyl acetate	CAS-No.: 105-87-3 EC-No.: 203-341-5 REACH-no: 01-2119973480-35	0 – 5	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Guaiacwood acetate	CAS-No.: 94333-88-7 EC-No.: 305-067-2	0 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 1, H410
Vertofix Coeur (IFF)	CAS-No.: 32388-55-9 EC-No.: 251-020-3 REACH-no: 01-2119969651-28	0 – 5	Skin Sens. 1B, H317 Aquatic Chronic 1, H410

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.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.
First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

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 : 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

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : 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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	:	Ensure good ventilation of the work station. 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. 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

Technical measures	:	Keep in a cool, well-ventilated place away from heat.
Storage conditions	:	Keep cool. Protect from sunlight.
Packaging materials	:	Store always product in container of same material as original container.

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:
Wear recommended personal protective equipment.
Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colourless - pale yellow.
Odour	:	characteristic.
Odour threshold	:	< mg/m³
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	> 80 °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	:	1.008 – 1.038 (d20/20)
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

Other safety characteristics

Miscibility	:	> g/100ml

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.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

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

Benzyl salicylate (118-58-1)	
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Phenyl ethyl alcohol (60-12-8)	
LD50 dermal rabbit	2535 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 1769 - 3634
LC50 Inhalation - Rat	> 4.63 mg/l air Animal: rat

Linalyl acetate (115-95-7)	
LD50 oral rat	> 9000 mg/kg bodyweight Animal: rat, Remarks on results: other:
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit

Geraniol (106-24-1)	
LD50 oral rat	3600 mg/kg bodyweight Animal: rat, 95% CL: 2840 - 4570
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit

Limonene D- (nat) (5989-27-5)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

gamma-Methyl ionone (1335-46-2)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 (Acute Toxicity (Oral))
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit

para-Methyl cresol (104-93-8)	
LD50 oral rat	1920 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1510 - 2450
LC50 Inhalation - Rat	> 6.1 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Butyl Hydroxy Toluene (BHT) (128-37-0)	
LD50 oral rat	> 2930 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Terpineol (8000-41-7)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 4.76 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Eugenol (97-53-0)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 oral	1500 – 1500 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

Linalool (78-70-6)	
LD50 oral rat	2790 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2440 - 3180
LD50 oral	3120 mg/kg bodyweight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2620 - 3620
LD50 dermal rabbit	5610 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 3578 - 8374

Geranyl acetate (105-87-3)	
LD50 oral rat	6330 mg/kg bodyweight Animal: rat, 95% CL: 5450 - 7340

Guaiacwood acetate (94333-88-7)	
LD50 oral	10000 mg/kg bodyweight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

Vertofix Coeur (IFF) (32388-55-9)	
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

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

Geraniol (106-24-1)	
NOAEL (chronic, oral, animal/male, 2 years)	60 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Butyl Hydroxy Toluene (BHT) (128-37-0)	
NOAEL (chronic, oral, animal/male, 2 years)	25 mg/kg bodyweight Animal: rat, Animal sex: male

Isoeugenol (5932-68-3; 97-54-1)	
NOAEL (chronic, oral, animal/male, 2 years)	300 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 451 (Carcinogenicity Studies)
NOAEL (chronic, oral, animal/female, 2 years)	150 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 451 (Carcinogenicity Studies)

Reproductive toxicity : Reproductive toxicity: Not classified.

Benzyl salicylate (118-58-1)	
NOAEL (animal/female, F0/P)	158 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

Terpineol (8000-41-7)	
NOAEL (animal/male, F0/P)	250 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Terpineol (8000-41-7)	
NOAEL (animal/female, F0/P)	> 250 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure : Not classified

Isoeugenol (5932-68-3; 97-54-1)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

Benzyl salicylate (118-58-1)	
NOAEL (oral, rat, 90 days)	177 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Phenyl ethyl alcohol (60-12-8)	
NOAEL (dermal, rat/rabbit, 90 days)	510 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Linalyl acetate (115-95-7)	
NOAEL (dermal, rat/rabbit, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Geraniol (106-24-1)	
NOAEL (dermal, rat/rabbit, 90 days)	300 mg/kg bodyweight Animal: rat, Guideline: other:, Guideline: other:

para-Methyl cresol (104-93-8)	
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Butyl Hydroxy Toluene (BHT) (128-37-0)	
LOAEL (oral, rat, 90 days)	100 mg/kg bodyweight Animal: rat, Animal sex: male
NOAEL (oral, rat, 90 days)	25 mg/kg bodyweight Animal: rat, Animal sex: male

Terpineol (8000-41-7)	
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Isoeugenol (5932-68-3; 97-54-1)	
NOAEL (subchronic, oral, animal/male, 90 days)	300 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (subchronic, oral, animal/female, 90 days)	600 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Eugenol (97-53-0)	
NOAEL (subchronic, oral, animal/male, 90 days)	≥ 900 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: other:
NOAEL (subchronic, oral, animal/female, 90 days)	450 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: other:

Citronellol (106-22-9)	
NOAEL (oral, rat, 90 days)	2000 mg/kg bodyweight Animal: rat, Guideline: other:
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.063 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

Linalool (78-70-6)	
NOAEL (dermal, rat/rabbit, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Geranyl acetate (105-87-3)	
NOAEL (oral, rat, 90 days)	2000 mg/kg bodyweight Animal: rat, Guideline: other:

Vertofix Coeur (IFF) (32388-55-9)	
NOAEL (oral, rat, 90 days)	80 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Aspiration hazard : Not classified

Benzyl salicylate (118-58-1)	
Viscosity, kinematic	17 mm²/s at 20 °C

Linalyl acetate (115-95-7)	
Viscosity, kinematic	2.77 mm²/s

Butyl Hydroxy Toluene (BHT) (128-37-0)	
Viscosity, kinematic	Not applicable

Eugenol (97-53-0)	
Viscosity, kinematic	7.863 mm²/s at 25°C

Linalool (78-70-6)	
Viscosity, kinematic	5.192 mm²/s

Geranyl acetate (105-87-3)	
Viscosity, kinematic	2.71 mm²/s Temp.: 20 °C

Vertofix Coeur (IFF) (32388-55-9)	
Viscosity, kinematic	38.25 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : 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.

Benzyl salicylate (118-58-1)	
LC50 - Fish [1]	1.03 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1.16 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.691 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Benzyl salicylate (118-58-1)	
EC50 72h - Algae [2]	1.29 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Phenyl ethyl alcohol (60-12-8)	
LC50 - Fish [1]	215 – 464 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	287.17 mg/l Test organisms (species): Daphnia magna

Linalyl acetate (115-95-7)	
LC50 - Fish [1]	11 mg/l Test organisms (species): Cyprinus carpio
EC50 - Crustacea [1]	59 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	13.1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Geraniol (106-24-1)	
LC50 - Fish [1]	≈ 22 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	10.8 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	13.1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	≈ 13.1 mg/l
NOEC chronic fish	≈ 10 mg/l
NOEC chronic algae	≈ 1 ml/l

Limonene D- (nat) (5989-27-5)	
LC50 - Fish [1]	720 µg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	702 µg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	0.307 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	0.51 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.32 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0.214 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

gamma-Methyl ionone (1335-46-2)	
LC50 - Fish [1]	> 1.57 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	3.7 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 9.42 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

para-Methyl cresol (104-93-8)	
LC50 - Fish [1]	68.2 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	27 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	492.05 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Butyl Hydroxy Toluene (BHT) (128-37-0)	
LC50 - Fish [1]	> 0.57 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.48 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 0.4 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.023 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.053 mg/l Test organisms (species): Oryzias latipes Duration: '42 d'

Terpineol (8000-41-7)	
LC50 - Fish [1]	62 – 80 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 72h - Algae [1]	≈ 68 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	≈ 17 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Hexyl cinnamal (101-86-0)	
LC50 - Fish [1]	1.7 mg/l Species: fish
EC50 - Other aquatic organisms [1]	< 0.59 mg/l Species: aquatic invertebrates
ErC50 algae	> 0.065 mg/l 72 h

Isoeugenol (5932-68-3; 97-54-1)	
LC50 - Fish [1]	3.6 mg/l Test organisms (species): other:
EC50 - Other aquatic organisms [1]	3 mg/l Test organisms (species): other:
EC50 72h - Algae [1]	5.6 mg/l Test organisms (species): other:
EC50 96h - Algae [1]	34.3 mg/l Test organisms (species): other:

Eugenol (97-53-0)	
LC50 - Fish [1]	13 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1.05 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	24 mg/l

Citronellol (106-22-9)	
LC50 - Fish [1]	14.66 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	17.48 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	2.4 mg/l Test organisms (species):

Linalool (78-70-6)	
LC50 - Fish [1]	27.8 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	59 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	88.3 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [2]	156.7 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Geranyl acetate (105-87-3)	
LC50 - Fish [1]	68.12 mg/l Test organisms (species): Leuciscus idus

Geranyl acetate (105-87-3)	
EC50 - Crustacea [1]	14.1 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	3.72 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Guaiacwood acetate (94333-88-7)	
EC50 - Crustacea [1]	0.33 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 0.31 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Vertofix Coeur (IFF) (32388-55-9)	
LC50 - Fish [1]	2.3 mg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	3 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	0.86 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	2.8 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	> 4.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
LOEC (chronic)	0.23 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.087 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

FO Carnation	
Persistence and degradability	Not rapidly degradable

Benzyl salicylate (118-58-1)	
Persistence and degradability	Not rapidly degradable

Phenyl ethyl alcohol (60-12-8)	
Persistence and degradability	Not rapidly degradable

Linalyl acetate (115-95-7)	
Persistence and degradability	Not rapidly degradable

Geraniol (106-24-1)	
Persistence and degradability	Not rapidly degradable

Limonene D- (nat) (5989-27-5)	
Persistence and degradability	Not rapidly degradable

gamma-Methyl ionone (1335-46-2)	
Persistence and degradability	Not rapidly degradable

para-Methyl cresol (104-93-8)	
Persistence and degradability	Not rapidly degradable

Butyl Hydroxy Toluene (BHT) (128-37-0)	
Persistence and degradability	Not rapidly degradable

Terpineol (8000-41-7)	
Persistence and degradability	Not rapidly degradable

Hexyl cinnamal (101-86-0)	
Persistence and degradability	Not rapidly degradable

Isoeugenol (5932-68-3; 97-54-1)	
Persistence and degradability	Not rapidly degradable

Eugenol (97-53-0)	
Persistence and degradability	Not rapidly degradable

Citronellol (106-22-9)	
Persistence and degradability	Not rapidly degradable

Linalool (78-70-6)	
Persistence and degradability	Not rapidly degradable

Geranyl acetate (105-87-3)	
Persistence and degradability	Not rapidly degradable

Guaiacwood acetate (94333-88-7)	
Persistence and degradability	Not rapidly degradable

Vertofix Coeur (IFF) (32388-55-9)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

Benzyl salicylate (118-58-1)	
Partition coefficient n-octanol/water (Log Pow)	4

Phenyl ethyl alcohol (60-12-8)	
Partition coefficient n-octanol/water (Log Pow)	0.8 pH value : 7, 20 °C

Linalyl acetate (115-95-7)	
Partition coefficient n-octanol/water (Log Pow)	≥ 3.9

Geraniol (106-24-1)	
Partition coefficient n-octanol/water (Log Pow)	≈ 2.6

Hexyl cinnamal (101-86-0)	
Partition coefficient n-octanol/water (Log Kow)	5.3 at 24 °C

Isoeugenol (5932-68-3; 97-54-1)	
Partition coefficient n-octanol/water (Log Kow)	2.1 25 °C

Eugenol (97-53-0)	
Partition coefficient n-octanol/water (Log Pow)	1.83 pH: 55, 30 °C

Citronellol (106-22-9)	
BCF - Fish [1]	82.59
Partition coefficient n-octanol/water (Log Pow)	3.3

Linalool (78-70-6)	
Partition coefficient n-octanol/water (Log Pow)	2.84

Geranyl acetate (105-87-3)	
Partition coefficient n-octanol/water (Log Pow)	4.04

Vertofix Coeur (IFF) (32388-55-9)	
Partition coefficient n-octanol/water (Log Pow)	5.655

12.4. Mobility in soil

Hexyl cinnamal (101-86-0)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.2

Geranyl acetate (105-87-3)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.06

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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

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 for transport				
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

ADR	IMDG	IATA	ADN	RID
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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(a)	Limonene D- (nat)	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)	FO Carnation ; Benzyl salicylate ; Phenyl ethyl alcohol ; Linalyl acetate ; Geraniol ; Limonene D- (nat) ; gamma-Methyl ionone ; para-Methyl cresol ; Terpineol ; Hexyl cinnamal ; Isoeugenol ; Eugenol ; Citronellol ; Linalool ; Geranyl acetate ; Guaiacwood acetate ; Vertofix Coeur (IFF)	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	FO Carnation ; Benzyl salicylate ; Limonene D- (nat) ; gamma-Methyl ionone ; Hexyl cinnamal ; Geranyl acetate ; Guaiacwood acetate ; Vertofix Coeur (IFF)	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

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
40.	Limonene D- (nat)	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)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

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

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)

National regulations

Netherlands

SZW-lijst van kankerverwekkende stoffen : Terpineol,Guaiacwood acetate are listed
SZW-lijst van mutagene stoffen : Terpineol,Guaiacwood acetate 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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)

Abbreviations and acronyms:	
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

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
Asp. Tox. 1	Aspiration hazard, Category 1

Full text of H- and EUH-statements:	
EUH208	Contains Benzyl salicylate, Linalyl acetate, Geraniol, Limonene D- (nat), Hexyl cinnamal, Isoeugenol, Eugenol, Citronellol, Linalool, Geranyl acetate, Guaiacwood acetate, Vertofix Coeur (IFF). May produce an allergic reaction.
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.
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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
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

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.