

CINNAMON BUN FO-0035

Safety Data Sheet

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



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

1.1. Product identifier

Product form	: Mixture
Product name	: CINNAMON BUN FO-0035
UFI	: XVAU-94QG-C00Q-QR4C
Product code	: FO-0035
Type of product	: Perfumes, fragrances
Product group	: Trade product

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

1.2.1. Relevant identified uses

Main use category	: 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

1.2.2. Uses advised against No additional information available

1.3. Details of the supplier of the safety data sheet

Fragrance Orchard

Neutrino,
Albert Road,
Essex CM7 3JQ
GB - United Kingdom

1.4. Emergency telephone number

Emergency number : +44 (0) 1376 555185

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
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

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. 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)	: Warning
Contains	: Hexyl cinnamic aldehyde; Benzyl alcohol; alpha-Methylcinnamic aldehyde; COUMARIN; Cinnamic aldehyde; Cinnamic alcohol; beta-Caryophyllene; Eugenol; Linalool; Ethyl maltol; Heliotropine; Orange oil ; 1,2-Cyclopentanedione, 3-methyl-; Anise oil (Spanish); Citronellol Pure; Calamus oil; Allyl caproate; Cassia oil
Hazard statements (CLP)	: H302 - Harmful if swallowed. 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. P270 - Do not eat, drink or smoke when using this product. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
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]
Dipropylene glycol monomethyl ether substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 34590-94-8 EC-No.: 252-104-2	15 – 30	Not classified
Hexyl cinnamic aldehyde	CAS-No.: 101-86-0 EC-No.: 202-983-3 REACH-no: 01-2119533092-50	11 – 22.09	Skin Sens. 1, H317 Aquatic Chronic 2, H411
Benzyl alcohol substance with national workplace exposure limit(s) (BG, CZ, DE, FI, LT, LV, PL, SI, CH)	CAS-No.: 100-51-6 EC-No.: 202-859-9 EC Index-No.: 603-057-00-5 REACH-no: 01-2119492630- 38	4.3 – 8.52	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Ethyl vanillin	CAS-No.: 121-32-4 EC-No.: 204-464-7 REACH-no: 01-211958961-24	2.3 – 4.5	Eye Irrit. 2, H319

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
alpha-Methylcinnamic aldehyde	CAS-No.: 101-39-3 EC-No.: 202-938-8 REACH-no: 01-2119538797-21	2 – 4	Skin Sens. 1, H317 Aquatic Chronic 1, H410
Cinnamyl acetate	CAS-No.: 103-54-8 EC-No.: 203-121-9	1.7 – 3.4	Eye Irrit. 2, H319
COUMARIN	CAS-No.: 91-64-5 EC-No.: 202-086-7 REACH-no: 01-2119943756-26	1.6 – 3.25	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Cinnamic aldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9 REACH-no: 01-2119935242-45	1.56 – 3.24	Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Vanillin	CAS-No.: 121-33-5 EC-No.: 204-465-2 REACH-no: 01-2119516040-60	1.5 – 3	Eye Irrit. 2, H319
Cinnamic alcohol	CAS-No.: 104-54-1 EC-No.: 203-212-3 REACH-no: 01-2119934496-29	1.3 – 2.65	Acute Tox. 4 (Oral), H302 Skin Sens. 1B, H317
beta-Caryophyllene	CAS-No.: 87-44-5 EC-No.: 201-746-1 REACH-no: 01-2120745237-53	0.66 – 1.92	Skin Sens. 1B, H317 Asp. Tox. 1, H304
Ethyl maltol	CAS-No.: 4940-11-8 EC-No.: 225-582-5	0.8 – 1.5	Acute Tox. 4 (Oral), H302
Heliotropine	CAS-No.: 120-57-0 EC-No.: 204-409-7 REACH-no: 01-2119983608-21	0.6 – 1.25	Skin Sens. 1B, H317
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1 REACH-no: 01-2119971802-33	0.3 – 1.2	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Orange oil	CAS-No.: 8008-57-9 EC-No.: 232-433-8 REACH-no: 01-2119493353- 35	0.3 – 0.5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1,2-Cyclopentanedione, 3-methyl-	CAS-No.: 765-70-8 EC-No.: 212-154-8	0.2 – 0.4	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317
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	0.2 – 0.38	Acute Tox. 4 (Oral), H302

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Benzyl acetate substance with national workplace exposure limit(s) (BE, DK, ES, IE, LT, LV, PT, RO)	CAS-No.: 140-11-4 EC-No.: 205-399-7 REACH-no: 01-2119638272-42	0.2 – 0.3	Aquatic Chronic 3, H412
Linalool	CAS-No.: 78-70-6 EC-No.: 201-134-4 EC Index-No.: 603-235-00-2 REACH-no: 01-2119474016-42	0.1 – 0.224	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Isoamyl acetate substance with national workplace exposure limit(s) (AT, BE, BG, CY, DE, DK, EE, ES, FI, FR, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, TR); substance with a Community workplace exposure limit	CAS-No.: 123-92-2 EC-No.: 204-662-3 EC Index-No.: 607-130-00-2 REACH-no: 01-2119548408-32	0.1 – 0.2	Flam. Liq. 3, H226
Anise oil (Spanish)	CAS-No.: 8007-70-3 EC-No.: 616-914-3	0.1 – 0.2	Skin Sens. 1, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Chronic 3, H412
Citronellol Pure	CAS-No.: 106-22-9 EC-No.: 203-375-0 REACH-no: 01-2119453995-23	0.1 – 0.2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
Calamus oil (Acorus calamus L.)	CAS-No.: 8015-79-0 EC-No.: 283-869-0	0.1 – 0.1	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317
Allyl caproate	CAS-No.: 123-68-2 EC-No.: 204-642-4 REACH-no: 01-2119983573-26	0.1 – 0.1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Cassia oil	CAS-No.: 8007-80-5 EC-No.: 284-635-0;616-916-4	0.1 – 0.1	Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412
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	< 0.024	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 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	< 0.024	Flam. Liq. 3, H226
.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	< 0.024	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	: Call a poison center or a doctor if you feel unwell.
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	: Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

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.
------------------------------	--

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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

6.1.1. For non-emergency

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

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
----------------------	---

6.2. Environmental precautions

Avoid release to the environment.

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.
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

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. 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	: Store in a well-ventilated place. Keep cool.
Storage temperature	: 25 °C
Storage area	: Store in a well-ventilated place. Store away from
Special rules on packaging	heat. : 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

Dipropylene glycol monomethyl ether (34590-94-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	308 mg/m ³
IOEL TWA [ppm]	50 ppm
Remark	Possibility of significant uptake through the skin
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	307 mg/m ³ (mixed isomers)
MAK (OEL TWA) [ppm]	50 ppm (mixed isomers)
MAK (OEL STEL)	614 mg/m ³ (isomers mixtures)
MAK (OEL STEL) [ppm]	100 ppm (isomers mixtures)
OEL chemical category	Skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	Skin, Skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	308 mg/m ³
GVI (OEL TWA) [2]	50 ppm
OEL chemical category	Skin notation

Dipropylene glycol monomethyl ether (34590-94-8)	
Cyprus - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	270 mg/m ³
OEL chemical category	Potential for cutaneous absorption
Denmark - Occupational Exposure Limits	
OEL TWA [1]	309 mg/m ³
OEL TWA [2]	50 ppm
OEL chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	Skin notation
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	310 mg/m ³
HTP (OEL TWA) [2]	50 ppm
OEL chemical category	Potential for cutaneous absorption
France - Occupational Exposure Limits	
VME (OEL TWA)	308 mg/m ³ (restrictive limit)
VME (OEL TWA) [ppm]	50 ppm (restrictive limit)
OEL chemical category	Risk of cutaneous absorption
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	310 mg/m ³ (isomer mixture)
AGW (OEL TWA) [2]	50 ppm (isomer mixture)
Gibraltar - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	Skin notation
Greece - Occupational Exposure Limits	
OEL TWA	600 mg/m ³
OEL TWA [ppm]	100 ppm
OEL STEL	900 mg/m ³
OEL STEL [ppm]	150 ppm
OEL chemical category	skin - potential for cutaneous absorption
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	308 mg/m ³

Dipropylene glycol monomethyl ether (34590-94-8)	
Ireland - Occupational Exposure Limits	
OEL TWA [1]	308 mg/m ³ ((2-Methoxymethylethoxy)propanol)
OEL TWA [2]	50 ppm ((2-Methoxymethylethoxy)propanol)
OEL STEL	924 mg/m ³ (calculated (2-(2-Methoxypropoxy)-1-propanol)
OEL STEL [ppm]	150 ppm (calculated (2-(2-Methoxypropoxy)-1-propanol)
OEL chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	skin - potential for cutaneous exposure
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	300 mg/m ³ (2-(2-Methoxypropoxy)-propanol)
IPRV (OEL TWA) [ppm]	50 ppm (2-(2-Methoxypropoxy)-propanol)
TPRV (OEL STEL)	450 mg/m ³ (2-(2-Methoxypropoxy)-propanol)
TPRV (OEL STEL) [ppm]	75 ppm (2-(2-Methoxypropoxy)-propanol)
OEL chemical category	Skin notation
Luxembourg - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	Possibility of significant uptake through the skin
Malta - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	Possibility of significant uptake through the skin
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	300 mg/m ³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	240 mg/m ³ (mixture of isomers: 1-(2-Methoxy-1-methylethoxy)propan-2-ol, 1-(2-Methoxy-2-methylethoxy)propan-2-ol and 2-(2-Methoxy-1-methylethoxy)propan-1-ol)
NDSch (OEL STEL)	480 mg/m ³ (mixture of isomers: 1-(2-Methoxy-1-methylethoxy)propan-2-ol, 1-(2-Methoxy-2-methylethoxy)propan-2-ol, 2-(2-Methoxy-1-methylethoxy)propan-1-ol)
Portugal - Occupational Exposure Limits	
OEL TWA	308 mg/m ³ (indicative limit value)
OEL TWA [ppm]	50 ppm (indicative limit value)
OEL STEL [ppm]	150 ppm
OEL chemical category	skin - potential for cutaneous exposure indicative limit value

Dipropylene glycol monomethyl ether (34590-94-8)	
Romania - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL chemical category	Skin notation
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	308 mg/m ³
NPHV (OEL TWA) [2]	50 ppm
OEL chemical category	Potential for cutaneous absorption
Slovenia - Occupational Exposure Limits	
OEL TWA	308 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	308 mg/m ³
OEL STEL [ppm]	50 ppm
OEL chemical category	Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	308 mg/m ³ (indicative limit value)
VLA-ED (OEL TWA) [2]	50 ppm (indicative limit value)
OEL chemical category	skin - potential for cutaneous absorption
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	300 mg/m ³
NGV (OEL TWA) [ppm]	50 ppm
KTV (OEL STEL)	450 mg/m ³
KTV (OEL STEL) [ppm]	75 ppm
OEL chemical category	Skin notation
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	308 mg/m ³
WEL TWA (OEL TWA) [2]	50 ppm
WEL STEL (OEL STEL)	924 mg/m ³ (calculated)
WEL STEL (OEL STEL) [ppm]	150 ppm (calculated)
WEL chemical category	Potential for cutaneous absorption
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	300 mg/m ³
Grenseverdi (OEL TWA) [2]	50 ppm
Korttidsverdi (OEL STEL)	375 mg/m ³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	75 ppm (value calculated)
OEL chemical category	Skin notation
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	300 mg/m ³ (aerosol, vapour)
MAK (OEL TWA) [2]	50 ppm (aerosol, vapour)

Dipropylene glycol monomethyl ether (34590-94-8)	
KZGW (OEL STEL)	300 mg/m ³ (aerosol, vapour)
KZGW (OEL STEL) [ppm]	50 ppm (aerosol, vapour)
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	100 ppm
ACGIH OEL STEL [ppm]	150 ppm
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
Benzyl alcohol (100-51-6)	
Bulgaria - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	40 mg/m ³
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	45 mg/m ³
HTP (OEL TWA) [2]	10 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	22 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
Latvia - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m ³
OEL chemical category	Skin notation
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	240 mg/m ³
Slovenia - Occupational Exposure Limits	
OEL TWA	22 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	44 mg/m ³
OEL STEL [ppm]	10 ppm
OEL chemical category	Potential for cutaneous absorption
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	22 mg/m ³ (aerosol, vapour)
MAK (OEL TWA) [2]	5 ppm (aerosol, vapour)
OEL chemical category	Skin notation

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
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	
Grenseverdi (OEL TWA) [1]	140 mg/m ³
Grenseverdi (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

.alpha.-Pinene (80-56-8)	
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
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	
Grenseverdi (OEL TWA) [1]	140 mg/m ³
Grenseverdi (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
.beta.-Pinene (127-91-3)	
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

.beta.-Pinene (127-91-3)	
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
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	
Grenseverdi (OEL TWA) [1]	140 mg/m ³
Grenseverdi (OEL TWA) [2]	25 ppm
Korttidsverdi (OEL STEL)	175 mg/m ³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	37.5 ppm (value calculated)
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
Benzaldehyde (100-52-7)	
Bulgaria - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	4.4 mg/m ³
HTP (OEL TWA) [2]	1 ppm
HTP (OEL C)	17.4 mg/m ³
HTP (OEL C) [ppm]]	4 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	5 mg/m ³
CK (OEL STEL)	10 mg/m ³
Latvia - Occupational Exposure Limits	
OEL TWA	5 mg/m ³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m ³

Benzaldehyde (100-52-7)	
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	10 mg/m³
NDSch (OEL STEL)	40 mg/m³
Benzyl acetate (140-11-4)	
Belgium - Occupational Exposure Limits	
OEL TWA	62 mg/m³
OEL TWA [ppm]	10 ppm
Denmark - Occupational Exposure Limits	
OEL TWA [1]	61 mg/m³
OEL TWA [2]	10 ppm
Ireland - Occupational Exposure Limits	
OEL TWA [2]	10 ppm
OEL STEL [ppm]	30 ppm (calculated)
Latvia - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA [ppm]	10 ppm
OEL chemical category	A4 - Not Classifiable as a Human Carcinogen
Romania - Occupational Exposure Limits	
OEL TWA	50 mg/m³
OEL TWA [ppm]	8 ppm
OEL STEL	80 mg/m³
OEL STEL [ppm]	13 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	62 mg/m³
VLA-ED (OEL TWA) [2]	10 ppm
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	10 ppm
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Isoamyl acetate (123-92-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	270 mg/m³
IOEL TWA [ppm]	50 ppm
IOEL STEL	540 mg/m³
IOEL STEL [ppm]	100 ppm

Isoamyl acetate (123-92-2)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	270 mg/m ³ (Pentyl acetate (all isomers))
MAK (OEL TWA) [ppm]	50 ppm (Pentyl acetate (all isomers))
MAK (OEL STEL)	540 mg/m ³ (Pentylacetate)
MAK (OEL STEL) [ppm]	100 ppm (Pentylacetate)
Belgium - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Bulgaria - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	270 mg/m ³
GVI (OEL TWA) [2]	50 ppm
KGVI (OEL STEL)	540 mg/m ³
KGVI (OEL STEL) [ppm]	100 ppm
Cyprus - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Denmark - Occupational Exposure Limits	
OEL TWA [1]	271 mg/m ³ (Amyl acetate, all isomers)
OEL TWA [2]	50 ppm (Amyl acetate, all isomers)
Estonia - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	270 mg/m ³ (Pentyl acetate)
HTP (OEL TWA) [2]	50 ppm (Pentyl acetate)
HTP (OEL STEL)	540 mg/m ³
HTP (OEL STEL) [ppm]	100 ppm

Isoamyl acetate (123-92-2)	
France - Occupational Exposure Limits	
VME (OEL TWA)	270 mg/m ³ (restrictive limit)
VME (OEL TWA) [ppm]	50 ppm (restrictive limit)
VLE (OEL C/STEL)	540 mg/m ³ (restrictive limit)
VLE (OEL C/STEL) [ppm]	100 ppm (restrictive limit)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	270 mg/m ³
AGW (OEL TWA) [2]	50 ppm
Gibraltar - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Greece - Occupational Exposure Limits	
OEL TWA	530 mg/m ³
OEL TWA [ppm]	100 ppm
OEL STEL	800 mg/m ³
OEL STEL [ppm]	150 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	270 mg/m ³
CK (OEL STEL)	540 mg/m ³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	260 mg/m ³
OEL TWA [2]	50 ppm
OEL STEL	520 mg/m ³
OEL STEL [ppm]	100 ppm
Italy - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	270 mg/m ³
IPRV (OEL TWA) [ppm]	50 ppm
TPRV (OEL STEL)	540 mg/m ³
TPRV (OEL STEL) [ppm]	100 ppm

Isoamyl acetate (123-92-2)	
Luxembourg - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Malta - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Netherlands - Occupational Exposure Limits	
TGG-15min (OEL STEL)	530 mg/m ³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	250 mg/m ³
NDSch (OEL STEL)	500 mg/m ³
Portugal - Occupational Exposure Limits	
OEL TWA	270 mg/m ³ (indicative limit value)
OEL TWA [ppm]	50 ppm (indicative limit value)
OEL STEL	540 mg/m ³ (indicative limit value)
OEL STEL [ppm]	100 ppm (indicative limit value, regulated under Pentyl acetate, all isomers)
Romania - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	270 mg/m ³
NPHV (OEL TWA) [2]	50 ppm
NPHV (OEL C)	540 mg/m ³
Slovenia - Occupational Exposure Limits	
OEL TWA	270 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	540 mg/m ³
OEL STEL [ppm]	100 ppm
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	270 mg/m ³ (indicative limit value)
VLA-ED (OEL TWA) [2]	50 ppm (indicative limit value)
VLA-EC (OEL STEL)	540 mg/m ³
VLA-EC (OEL STEL) [ppm]	100 ppm

Isoamyl acetate (123-92-2)	
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	270 mg/m ³ (Pentyl acetates)
NGV (OEL TWA) [ppm]	50 ppm (Pentyl acetates)
KTV (OEL STEL)	540 mg/m ³ (Pentyl acetates)
KTV (OEL STEL) [ppm]	100 ppm (Pentyl acetates)
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	260 mg/m ³
Grenseverdi (OEL TWA) [2]	50 ppm
Korttidsverdi (OEL STEL)	325 mg/m ³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	75 ppm (value calculated)
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	50 ppm (Pentyl acetate, all isomers)
ACGIH OEL STEL [ppm]	100 ppm (Pentyl acetate, all isomers)

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 symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. 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	: light yellow. amber.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 93 °C (closed cup) ASTM D7094
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	Not available :
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.

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

CINNAMON BUN	
ATE CLP (oral)	1731.119 mg/kg bodyweight
Dipropylene glycol monomethyl ether (34590-94-8)	
LD50 oral rat	5.35 g/kg
LD50 dermal rabbit	9500 mg/kg
Hexyl cinnamic aldehyde (101-86-0)	
LD50 oral rat	3100 mg/kg
LD50 oral	3100 mg/kg bodyweight
LD50 dermal rabbit	> 3000 mg/kg
LC50 Inhalation - Rat	> 5 mg/l/4h
Benzyl alcohol (100-51-6)	
LD50 oral rat	1230 mg/kg
LD50 oral	1620 mg/kg bodyweight
LD50 dermal	2500 mg/kg bodyweight
Ethyl vanillin (121-32-4)	
LD50 oral rat	1590 mg/kg
LD50 oral	3000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg
alpha-Methylcinnamic aldehyde (101-39-3)	
LD50 oral rat	2050 mg/kg
LD50 oral	2050 mg/kg bodyweight
LD50 dermal rabbit	> 5 g/kg
Cinnamyl acetate (103-54-8)	
LD50 oral rat	3300 mg/kg
LD50 oral	3330 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg
COUMARIN (91-64-5)	
LD50 oral rat	> 5000 mg/kg
LD50 oral	500 mg/kg bodyweight

COUMARIN (91-64-5)	
LD50 dermal rat	293 mg/kg
Vanillin (121-33-5)	
LD50 dermal rabbit	> 5010 mg/kg
LD50 dermal	2600 mg/kg bodyweight
Cinnamic aldehyde (104-55-2)	
LD50 oral rat	2220 mg/kg
LD50 oral	2200 mg/kg bodyweight
LD50 dermal rabbit	1260 mg/kg
LD50 dermal	1100 mg/kg bodyweight
Cinnamic alcohol (104-54-1)	
LD50 oral	2000 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg
Eugenol (97-53-0)	
LD50 oral rat	1930 mg/kg
LD50 oral	2500 mg/kg bodyweight
d-Limonene (5989-27-5)	
LD50 oral rat	4400 mg/kg
LD50 dermal rabbit	> 5 g/kg
.alpha.-Pinene (80-56-8)	
LD50 oral rat	3700 mg/kg
LD50 oral	500 mg/kg bodyweight
LD50 dermal rat	> 5000 mg/kg
Linalool (78-70-6)	
LD50 oral	2790 mg/kg bodyweight
.beta.-Pinene (127-91-3)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
Ethyl maltol (4940-11-8)	
LD50 oral rat	1150 mg/kg
LD50 oral	1200 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg
Heliotropine (120-57-0)	
LD50 oral rat	2700 mg/kg
LD50 oral	2700 mg/kg bodyweight
LD50 dermal rat	> 5000 mg/kg
Orange oil (8008-57-9)	
LD50 oral rat	4400 mg/kg

Orange oil (8008-57-9)	
LD50 dermal rabbit	> 5000 mg/kg
1,2-Cyclopentanedione, 3-methyl- (765-70-8)	
LD50 oral	1067 mg/kg bodyweight
Benzaldehyde (100-52-7)	
LD50 oral rat	1292 mg/kg
LD50 dermal rabbit	> 1250 mg/kg
Benzyl acetate (140-11-4)	
LD50 oral rat	2490 mg/kg
LD50 oral	2490 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg
Anise oil (Spanish) (8007-70-3)	
LD50 oral rat	2250 mg/kg
LD50 oral	2200 mg/kg bodyweight
Citronellol Pure (106-22-9)	
LD50 oral rat	3450 mg/kg
LD50 oral	3450 mg/kg bodyweight
LD50 dermal rabbit	2650 mg/kg
LD50 dermal	2650 mg/kg bodyweight
Calamus oil (Acorus calamus L.) (8015-79-0)	
LD50 oral rat	777 mg/kg
LD50 oral	780 mg/kg bodyweight
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
Cassia oil (8007-80-5)	
LD50 oral rat	2800 mg/kg
LD50 dermal rabbit	320 mg/kg
Skin corrosion/irritation Serious	: Causes skin irritation.
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
COUMARIN (91-64-5)	
IARC group	3 - Not classifiable
Eugenol (97-53-0)	
IARC group	3 - Not classifiable

d-Limonene (5989-27-5)	
IARC group	3 - Not classifiable
Benzyl acetate (140-11-4)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Heliotropine (120-57-0)	
Viscosity, kinematic	Not applicable
Orange oil (8008-57-9)	
Hydrocarbon	Yes

11.2. Information on other hazards

No additional information available

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.

Dipropylene glycol monomethyl ether (34590-94-8)	
LC50 - Fish [1]	> 10000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [1]	1919 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Benzyl alcohol (100-51-6)	
LC50 - Fish [1]	460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
LC50 - Fish [2]	10 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 - Crustacea [1]	23 mg/l (Exposure time: 48 h - Species: water flea)
Ethyl vanillin (121-32-4)	
LC50 - Fish [1]	81.4 – 94.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
Vanillin (121-33-5)	
LC50 - Fish [1]	53 – 61.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	88 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
NOEC (acute)	10000 mg/kg (Exposure time: 42 Days - Species: Eisenia foetida [soil dry weight])
Eugenol (97-53-0)	
LC50 - Fish [1]	13 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)
Linalool (78-70-6)	
EC50 96h - Algae [1]	88.3 mg/l (Species: Desmodesmus subspicatus)
Ethyl maltol (4940-11-8)	
LC50 - Fish [1]	> 85 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
Heliotropine (120-57-0)	
LC50 - Fish [1]	2.5 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])
Benzaldehyde (100-52-7)	
LC50 - Fish [1]	10.6 – 11.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
LC50 - Fish [2]	12.69 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
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

No additional information available

12.3. Bioaccumulative potential

Dipropylene glycol monomethyl ether (34590-94-8)	
Partition coefficient n-octanol/water (Log Pow)	0.35 (at 25 °C (at pH 7)
Benzyl alcohol (100-51-6)	
Partition coefficient n-octanol/water (Log Pow)	1.05
Ethyl vanillin (121-32-4)	
Partition coefficient n-octanol/water (Log Pow)	1.61 (at 25 °C)
Cinnamyl acetate (103-54-8)	
Partition coefficient n-octanol/water (Log Pow)	2.7 (at 35 °C (at pH 7)
Vanillin (121-33-5)	
Partition coefficient n-octanol/water (Log Pow)	1.23 (at 22 °C)
Cinnamic aldehyde (104-55-2)	
Partition coefficient n-octanol/water (Log Pow)	2.1065 (at 25 °C)
Cinnamic alcohol (104-54-1)	
Partition coefficient n-octanol/water (Log Pow)	1.636 (at 27 °C (at pH 3.52)
beta-Caryophyllene (87-44-5)	
Partition coefficient n-octanol/water (Log Pow)	6.23 (at 25 °C (at pH 7)
Eugenol (97-53-0)	
Partition coefficient n-octanol/water (Log Pow)	1.83 (at 30 °C (at pH 5.5)

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
Ethyl maltol (4940-11-8)	
Partition coefficient n-octanol/water (Log Pow)	2.9 (at 25 °C)
Heliotropine (120-57-0)	
Partition coefficient n-octanol/water (Log Pow)	1.2 (at 35 °C)
Benzaldehyde (100-52-7)	
BCF - Fish [1]	(no significant bioaccumulation)
Partition coefficient n-octanol/water (Log Pow)	1.4 (at 25 °C)
Benzyl acetate (140-11-4)	
Partition coefficient n-octanol/water (Log Pow)	1.96 (at 25 °C (at pH 7)
Isoamyl acetate (123-92-2)	
Partition coefficient n-octanol/water (Log Pow)	2.7 (at 35 °C)
Citronellol Pure (106-22-9)	
Partition coefficient n-octanol/water (Log Pow)	3.41 (at 25 °C)
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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

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.

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

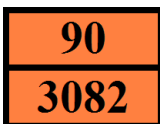
ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE)	Environmentally hazardous substance, liquid, n.o.s. (HEXYL CINNAMIC ALDEHYDE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE)
Transport document description				
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (HEXYL CINNAMIC ALDEHYDE), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEXYL CINNAMIC ALDEHYDE), 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes

ADR	IMDG	IATA	ADN	RID
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : M6
Special provisions (ADR) Limited : 274, 335, 375, 601
quantities (ADR) Excepted : 5I
quantities (ADR) Packing : E1
instructions (ADR) Special : P001, IBC03, LP01, R001
packing provisions (ADR) Mixed : PP1
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.) Orange plates : 90



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

Transport by sea

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

Air transport

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

Inland waterway transport

Classification code (ADN) : M6
Special provisions (ADN) : 274, 335, 375, 601
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T
Equipment required (ADN) : PP

Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : M6
Special provisions (RID) : 274, 335, 375, 601
Limited quantities (RID) Excepted : 5L
quantities (RID) Packing : E1
instructions (RID) Special packing : P001, IBC03, LP01,
provisions (RID) Mixed packing R001 : PP1
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

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)	d-Limonene ; .alpha.-Pinene ; .beta.-Pinene ; Orange oil ; Isoamyl acetate	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)	CINNAMON BUN ; Hexyl cinnamic aldehyde ; Benzyl alcohol ; alpha-Methylcinnamic aldehyde ; Cinnamyl acetate ; Cinnamic aldehyde ; Eugenol ; d-Limonene ; Linalool ; Orange oil ; Benzaldehyde ; Anise oil (Spanish) ; Citronellol Pure ; Calamus oil (Acorus calamus L.) ; Allyl caproate ; Cassia oil	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

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(c)	CINNAMON BUN ; Hexyl cinnamic aldehyde ; alpha-Methylcinnamic aldehyde ; Cinnamic aldehyde ; d-Limonene ; Orange oil ; Benzyl acetate ; Anise oil (Spanish) ; Allyl caproate ; Cassia oil	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.	d-Limonene ; .alpha.-Pinene ; .beta.-Pinene ; Orange oil ; Isoamyl acetate	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 substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category	Threshold	Annex
Piperonal		120-57-0	2932 93 00	Category 1		Annex I

15.1.2. National regulations

France

Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamide; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1).

List of sensitizing substances (TRGS 907) : Contains sensitizing substances according TRGS 907.
 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 : Orange oil ,Calamus oil,Cassia oil are listed
 SZW-lijst van mutagene stoffen : Orange oil ,Calamus oil,Cassia oil 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

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed
 Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
 Pregnant/breastfeeding women working with the product must not be in direct contact with the product

Switzerland

Storage class (LK) : LK 10/12 - Liquids

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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
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
Carc. 2	Carcinogenicity, Category 2
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.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.

Full text of H- and EUH-statements:	
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
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.
Muta. 2	Germ cell mutagenicity, Category 2
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.