Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 $\,$

CandleCraft

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

1.1. Product identifier

Product form : Mixture

Product name : Mulled Wine CC-16291 at 10% in DPG

Product code : CC-16291_ 10%

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial

For professional use only : Perfumes, fragrances

Function or use category : Odour agents

1.2.2. Uses advised against

Use of the substance/mixture

No additional information available

1.3. Details of the supplier of the safety data sheet

Candle Craft Weiherwiese 10 65510 Idstein - Germany T 49-6126-9363 -0

info@candlecraft.de - www.candlecraft.de

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]

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

No additional information available

2.2. Label elements

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

Signal word (CLP) : -

Hazard statements (CLP) : H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P273 - Avoid release to the environment.

P501 - Dispose of contents/container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulation.

EUH-statements : EUH208 - Contains alpha-Methylcinnamic aldehyde, Hexyl cinnamic aldehyde, Helional,

Amyl cinnamic aldehyde, Vertenex, Citral, Iso E Super, Hexyl salicylate, Clove leaf oil, Lemon oil, Eugenol, Triplal (Vertocitral), Linalool, Orange oil, beta-Caryophyllene. May

produce an allergic reaction.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

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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]
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1 REACH-no: 01-2119971802- 33	0.175 – 0.425	Acute Tox. 4 (Oral), H302 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	0.15 – 0.3031	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317
alpha-Methylcinnamic aldehyde	CAS-No.: 101-39-3 EC-No.: 202-938-8 REACH-no: 01-2119538797- 21	0.15 – 0.3	Skin Sens. 1, H317
Helional	CAS-No.: 1205-17-0 EC-No.: 214-881-6 REACH-no: 01-2120740119- 58	0.15 – 0.3	Skin Sens. 1B, H317 Aquatic Chronic 2, H411
Vertenex	CAS-No.: 32210-23-4 EC-No.: 250-954-9 REACH-no: 01-2119976286- 24	0.15 – 0.3	Skin Sens. 1B, H317
Hexyl salicylate	CAS-No.: 6259-76-3 EC-No.: 228-408-6	0.15 – 0.3	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Hexyl cinnamic aldehyde	CAS-No.: 101-86-0 EC-No.: 202-983-3 REACH-no: 01-2119533092- 50	0.145 – 0.29	Skin Sens. 1, H317 Aquatic Chronic 2, H411
Amyl cinnamic aldehyde	CAS-No.: 122-40-7 EC-No.: 204-541-5;453-530-3	0.145 – 0.29	Skin Sens. 1B, H317 Aquatic Chronic 2, H411
Triplal (Vertocitral)	CAS-No.: 68039-49-6 EC-No.: 268-264-1	0.145 – 0.29	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Orange oil	CAS-No.: 8008-57-9 EC-No.: 232-433-8; 600-006- 9; 616-926-9 REACH-no: 01-2119493353- 35	0.145 – 0.29	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Clove leaf oil	CAS-No.: 8000-34-8 EC-No.: 616-772-2	0.14 – 0.28	Eye Irrit. 2, H319 Skin Sens. 1, H317 Asp. Tox. 1, H304

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Isoamyl acetate 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	0.13 – 0.26	Flam. Liq. 3, H226
beta-Caryophyllene	CAS-No.: 87-44-5 EC-No.: 201-746-1 REACH-no: 01-2120745237- 53	0.0825 – 0.24	Skin Sens. 1B, H317 Asp. Tox. 1, H304
Citral	CAS-No.: 5392-40-5 EC-No.: 226-394-6 EC Index-No.: 605-019-00-3 REACH-no: 01-2119462829- 23	0.1075 – 0.215	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Lemon oil	CAS-No.: 8008-56-8 EC-No.: 284-515-8;616-925-3	0.1 – 0.2	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Repr. 2, H361 Aquatic Chronic 2, H411
Iso E Super	CAS-No.: 54464-57-2 EC-No.: 259-174-3 REACH-no: 01-2119489989- 04	0.075 – 0.15	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 1, H410
Allyl caproate	CAS-No.: 123-68-2 EC-No.: 204-642-4 REACH-no: 01-2119983573- 26	0.065 - 0.13	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Ethyl acetate substance with a Community workplace exposure limit	CAS-No.: 141-78-6 EC-No.: 205-500-4 EC Index-No.: 607-022-00-5 REACH-no: 01-2119475103-	0.025 - 0.05	Flam. Liq. 1, H224 Eye Irrit. 2, H319 STOT SE 3, H336

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical

advice (show the label where possible).

First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water,

followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness

persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

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

No additional information available

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any

chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or

smoking and when leaving work. Provide good ventilation in process area to prevent

formation of vapour.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep

container closed when not in use.

Incompatible products : Strong bases. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

8.1.1 National occupational exposure and biological limit values		
Isoamyl acetate (123-92-2)		
EU - Indicative Occupational Exposure Limit (IOEL)		
IOEL TWA	270 mg/m ³	
IOEL TWA [ppm]	50 ppm	
IOEL STEL	540 mg/m³	
IOEL STEL [ppm]	100 ppm	
Austria - Occupational Exposure Limits		
MAK (OEL TWA)	270 mg/m³ (Pentyl acetate (all isomers))	
MAK (OEL TWA) [ppm]	50 ppm (Pentyl acetate (all isomers))	
MAK (OEL STEL)	540 mg/m³ (Pentylacetate)	
MAK (OEL STEL) [ppm]	100 ppm (Pentylacetate)	
Belgium - Occupational Exposure Limits		
OEL TWA	270 mg/m³	
OEL TWA [ppm]	50 ppm	
OEL STEL	540 mg/m³	
OEL STEL [ppm]	100 ppm	
Bulgaria - Occupational Exposure Limits		
OEL TWA	270 mg/m³	
OEL TWA [ppm]	50 ppm	
OEL STEL	540 mg/m³	
OEL STEL [ppm]	100 ppm	
Croatia - Occupational Exposure Limits		
GVI (OEL TWA) [1]	270 mg/m³	
GVI (OEL TWA) [2]	50 ppm	
KGVI (OEL STEL)	540 mg/m³	
KGVI (OEL STEL) [ppm]	100 ppm	
Cyprus - Occupational Exposure Limits		
OEL TWA	270 mg/m³	
OEL TWA [ppm]	50 ppm	
OEL STEL	540 mg/m³	
OEL STEL [ppm]	100 ppm	
Denmark - Occupational Exposure Limits		
OEL TWA [1]	271 mg/m³ (Amyl acetate, all isomers)	
OEL TWA [2]	50 ppm (Amyl acetate, all isomers)	
Estonia - Occupational Exposure Limits		
OEL TWA	270 mg/m³	

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Isoamyl acetate (123-92-2)	Isoamyl acetate (123-92-2)		
OEL TWA [ppm]	50 ppm		
OEL STEL	540 mg/m³		
OEL STEL [ppm]	100 ppm		
Finland - Occupational Exposure Limits			
HTP (OEL TWA) [1]	270 mg/m³ (Pentyl acetate)		
HTP (OEL TWA) [2]	50 ppm (Pentyl acetate)		
HTP (OEL STEL)	540 mg/m³		
HTP (OEL STEL) [ppm]	100 ppm		
France - Occupational Exposure Limits			
VME (OEL TWA)	270 mg/m³ (restrictive limit)		
VME (OEL TWA) [ppm]	50 ppm (restrictive limit)		
VLE (OEL C/STEL)	540 mg/m³ (restrictive limit)		
VLE (OEL C/STEL) [ppm]	100 ppm (restrictive limit)		
Germany - Occupational Exposure Limits (TRGS 90	0)		
AGW (OEL TWA) [1]	270 mg/m³		
AGW (OEL TWA) [2]	50 ppm		
Gibraltar - Occupational Exposure Limits			
OEL TWA	270 mg/m³		
OEL TWA [ppm]	50 ppm		
OEL STEL	540 mg/m³		
OEL STEL [ppm]	100 ppm		
Greece - Occupational Exposure Limits			
OEL TWA	530 mg/m³		
OEL TWA [ppm]	100 ppm		
OEL STEL	800 mg/m³		
OEL STEL [ppm]	150 ppm		
Hungary - Occupational Exposure Limits			
AK (OEL TWA)	270 mg/m³		
CK (OEL STEL)	540 mg/m³		
Ireland - Occupational Exposure Limits			
OEL TWA [1]	260 mg/m³		
OEL TWA [2]	50 ppm		
OEL STEL	520 mg/m³		
OEL STEL [ppm]	100 ppm		
Italy - Occupational Exposure Limits			
OEL TWA	270 mg/m³		
OEL TWA [ppm]	50 ppm		
OEL STEL	540 mg/m³		
OEL STEL [ppm]	100 ppm		

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Isoamyl acetate (123-92-2)		
Latvia - Occupational Exposure Limits		
OEL TWA	270 mg/m³	
OEL TWA [ppm]	50 ppm	
Lithuania - Occupational Exposure Limits		
IPRV (OEL TWA)	270 mg/m³	
IPRV (OEL TWA) [ppm]	50 ppm	
TPRV (OEL STEL)	540 mg/m³	
TPRV (OEL STEL) [ppm]	100 ppm	
Luxembourg - Occupational Exposure Limits		
OEL TWA	270 mg/m³	
OEL TWA [ppm]	50 ppm	
OEL STEL	540 mg/m³	
OEL STEL [ppm]	100 ppm	
Malta - Occupational Exposure Limits		
OEL TWA	270 mg/m³	
OEL TWA [ppm]	50 ppm	
OEL STEL	540 mg/m³	
OEL STEL [ppm]	100 ppm	
Netherlands - Occupational Exposure Limits		
TGG-15min (OEL STEL)	530 mg/m³	
Poland - Occupational Exposure Limits		
NDS (OEL TWA)	250 mg/m³	
NDSCh (OEL STEL)	500 mg/m³	
Portugal - Occupational Exposure Limits		
OEL TWA	270 mg/m³ (indicative limit value)	
OEL TWA [ppm]	50 ppm (indicative limit value)	
OEL STEL	540 mg/m³ (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/m³	
OEL TWA [ppm]	50 ppm	
OEL STEL	540 mg/m³	
OEL STEL [ppm]	100 ppm	
Slovakia - Occupational Exposure Limits		
NPHV (OEL TWA) [1]	270 mg/m³	
NPHV (OEL TWA) [2]	50 ppm	
NPHV (OEL C)	540 mg/m³	
Slovenia - Occupational Exposure Limits		
OEL TWA	270 mg/m³	

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Isoamyl acetate (123-92-2)		
OEL TWA [ppm]	50 ppm	
OEL STEL	540 mg/m³	
OEL STEL [ppm]	100 ppm	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA) [1]	270 mg/m³ (indicative limit value)	
VLA-ED (OEL TWA) [2]	50 ppm (indicative limit value)	
VLA-EC (OEL STEL)	540 mg/m³	
VLA-EC (OEL STEL) [ppm]	100 ppm	
Sweden - Occupational Exposure Limits		
NGV (OEL TWA)	270 mg/m³ (Pentyl acetates)	
NGV (OEL TWA) [ppm]	50 ppm (Pentyl acetates)	
KTV (OEL STEL)	540 mg/m³ (Pentyl acetates)	
KTV (OEL STEL) [ppm]	100 ppm (Pentyl acetates)	
Norway - Occupational Exposure Limits		
Grenseverdi (OEL TWA) [1]	260 mg/m³	
Grenseverdi (OEL TWA) [2]	50 ppm	
Korttidsverdi (OEL STEL)	325 mg/m³ (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)	
Ethyl acetate (141-78-6)		
EU - Indicative Occupational Exposure Limit (IOEL)		
IOEL TWA	734 mg/m³	
IOEL TWA [ppm]	200 ppm	
IOEL STEL	1468 mg/m³	
IOEL STEL [ppm]	400 ppm	
Austria - Occupational Exposure Limits		
MAK (OEL TWA)	734 mg/m³	
MAK (OEL TWA) [ppm]	200 ppm	
MAK (OEL STEL)	1468 mg/m³	
MAK (OEL STEL) [ppm]	400 ppm	
Belgium - Occupational Exposure Limits		
OEL TWA	734 mg/m³	
OEL TWA [ppm]	200 ppm	
OEL STEL	1468 mg/m³	
OEL STEL [ppm]	400 ppm	
Bulgaria - Occupational Exposure Limits		
OEL TWA	734 mg/m³	

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OEL TWA (ppm) 200 ppm OEL STEL (ppm) 468 mg/m³ OEL STEL (ppm) 400 ppm Croatia - Occupational Exposure Limits VI (OEL TWA) [1] GVI (OEL TWA) [2] 200 ppm KWI (OEL STEL) 1468 mg/m³ KGVI (OEL STEL) (ppm] 400 ppm Cyprus - Occupational Exposure Limits VI (ppm) OEL TWA (ppm) 200 ppm OEL TWA (ppm) 200 ppm OEL STEL (ppm) 400 ppm Czech Republic - Occupational Exposure Limits VI (ppm) OEL STEL (ppm) 400 ppm Denmark - Occupational Exposure Limits VI (ppm) OEL TWA [1] 540 mg/m³ OEL TWA [2] 150 ppm Eatonia - Occupational Exposure Limits VI (ppm) OEL TWA [2] 150 ppm OEL TWA [2] 150 ppm OEL TWA [2] 150 ppm OEL STEL (ppm) 300 ppm Printand - Occupational Exposure Limits VI (ppm) OEL STEL (ppm) 400 ppm PTP (OEL TWA) [2] 200 ppm PTP (OEL STEL) (ppm)	Ethyl acetate (141-78-6)		
A00 ppm	OEL TWA [ppm]	200 ppm	
Croatia - Occupational Exposure Limits GVI (OEL TWA) [1] 734 mg/m³ GVI (OEL TWA) [2] 200 ppm KGVI (OEL STEL) 1468 mg/m² KGVI (OEL STEL) [ppm] 400 ppm Cyprus - Occupational Exposure Limits OEL TWA 724 mg/m³ OEL TWA [2] 200 ppm OEL STEL [ppm] 200 ppm OEL STEL [ppm] 400 ppm Czech Republic - Occupational Exposure Limits PEL (OEL TWA) 700 mg/m³ Denmark - Occupational Exposure Limits OEL TWA [1] 540 mg/m³ OEL TWA [2] 150 ppm OEL STEL [pm] 400 ppm OEL TWA [2] 150 ppm OEL TWA [3] 500 mg/m³ OEL TWA [4] 500 mg/m³ OEL TWA [5] 500 ppm OEL STEL [100 mg/m³ OEL TWA [100 mg/m³ OEL STEL [100 mg/m³ Finland - Occupational Exposure Limits HTP (OEL TWA) [2] 200 ppm Hrlm (OEL TWA) [2] 200 ppm Hrlm (OEL STEL) [ppm] 500 ppm Germany - Occupational Exposure Limits VME (OEL TWA) 1400 mg/m³ AGW (OEL TWA) [1] 730 mg/m³ HTP (OEL STEL) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 800) AGW (OEL TWA) [1] 730 mg/m³ AGW (OEL TWA) [1] 730 mg/m³ AGW (OEL TWA) [1] 730 mg/m³ Germany - Occupational Exposure Limits (TRGS 800) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) GEL TWA [100 mg/m³ OEL TWA [100 mg/m³ AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)	OEL STEL	1468 mg/m³	
GVI (OEL TWA) [1] 734 mg/m²	OEL STEL [ppm]	400 ppm	
SVI (OEL TWA) [2]	Croatia - Occupational Exposure Limits		
KGVI (OEL STEL) [ppm] 400 ppm Cyprus - Occupational Exposure Limits 734 mg/m³ OEL TWA 734 mg/m³ OEL TWA [ppm] 200 ppm OEL STEL 1488 mg/m³ OEL STEL [ppm] 400 ppm Czech Republic - Occupational Exposure Limits PDE (OEL TWA) Denmark - Occupational Exposure Limits PDE (OEL TWA) OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits PDE (OEL TWA) OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits PDE (OEL TWA) OEL TWA [2] 150 ppm OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits PDE (OEL STEL [ppm] Finland - Occupational Exposure Limits PDE (OEL TWA) [1] HTP (OEL STEL) [ppm] 400 ppm Finland - Occupational Exposure Limits PDE (OEL STEL) [ppm] France - Occupational Exposure Limits PDE (OEL STEL) [ppm] France - Occupational Exposure Limits PDE (OEL TWA) [1] [100 ppm] France - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] [2] [200 ppm (the risk of damage to the embryo or fetus can be excl	GVI (OEL TWA) [1]	734 mg/m³	
KGVI (OEL STEL) [ppm] 400 ppm	GVI (OEL TWA) [2]	200 ppm	
Cyprus - Occupational Exposure Limits	KGVI (OEL STEL)	1468 mg/m³	
OEL TWA 734 mg/m³ OEL TWA [ppm] 200 ppm OEL STEL 1468 mg/m³ OEL STEL [ppm] 400 ppm Czech Republic - Occupational Exposure Limits PEL (OEL TWA) PEL (OEL TWA) 700 mg/m³ OEL TWA (1] 540 mg/m³ OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits S00 mg/m³ OEL TWA 500 mg/m³ OEL TWA [ppm] 150 ppm OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) [ppm] VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) OEL TWA 200 ppm (the risk of damage to the embryo or fetus can be e	KGVI (OEL STEL) [ppm]	400 ppm	
OEL TWA [ppm] 200 ppm OEL STEL 1468 mg/m³ OEL STEL [ppm] 400 ppm Czech Republic - Occupational Exposure Limits F00 mg/m³ Denmark - Occupational Exposure Limits F00 mg/m³ OEL TWA [1] 540 mg/m³ OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits F00 mg/m³ OEL TWA [ppm] 150 ppm OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits F100 mg/m³ HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits F700 mg/m³ WME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits G0 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)	Cyprus - Occupational Exposure Limits		
OEL STEL 1468 mg/m³ OEL STEL [ppm] 400 ppm Czech Republic - Occupational Exposure Limits T00 mg/m³ Denmark - Occupational Exposure Limits Denmark - Occupational Exposure Limits OEL TWA [1] 540 mg/m³ OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits T00 mg/m³ OEL TWA [ppm] 150 ppm OEL TWA [ppm] 150 ppm OEL STEL 1100 mg/m³ OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) [ppm] 400 ppm HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits WME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits Occupational Exposure Limits	OEL TWA	734 mg/m³	
OEL STEL (ppm) 400 ppm Czech Republic - Occupational Exposure Limits PEL (OEL TWA) 700 mg/m³ Denmark - Occupational Exposure Limits OEL TWA [1] \$40 mg/m³ OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits OEL TWA \$500 mg/m³ OEL TWA (ppm) 150 ppm OEL STEL 1100 mg/m³ OEL STEL (ppm) 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL STEL) HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) [ppm] 400 mg/m³ VME (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OCL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits	OEL TWA [ppm]	200 ppm	
Czech Republic - Occupational Exposure Limits PEL (OEL TWA) 700 mg/m³ Denmark - Occupational Exposure Limits 540 mg/m³ OEL TWA [1] 540 mg/m³ OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits 500 mg/m³ OEL TWA [ppm] 150 ppm OEL STEL 1100 mg/m³ OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits 200 mg/m³ OEL TWA [ppm] 734 ppm	OEL STEL	1468 mg/m³	
PEL (OEL TWA) 700 mg/m³	OEL STEL [ppm]	400 ppm	
Denmark - Occupational Exposure Limits	Czech Republic - Occupational Exposure Limits		
OEL TWA [1] 540 mg/m³ OEL TWA [2] 150 ppm Estonia - Occupational Exposure Limits OEL TWA 500 mg/m³ OEL TWA [ppm] 150 ppm OEL STEL 1100 mg/m³ OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits WE (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	PEL (OEL TWA)	700 mg/m³	
DEL TWA [2] 150 ppm	Denmark - Occupational Exposure Limits		
Estonia - Occupational Exposure Limits OEL TWA 500 mg/m³ OEL STEL 1100 mg/m³ OEL STEL 1100 mg/m³ OEL STEL 1100 mg/m³ OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ WE (OEL TWA) 1400 mg/m³ VME (OEL TWA) 1400 mg/m³ VME (OEL TWA) 1700 mg/m³ Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits (TRGS 900) Gibraltar - Occupational Exposure Limits (TRGS 900) Gibraltar - Occupational Exposure Limits (TRGS 900) GEL TWA 200 mg/m³ OEL TWA 200 mg/m³	OEL TWA [1]	540 mg/m³	
OEL TWA 500 mg/m³ OEL TWA [ppm] 150 ppm OEL STEL 1100 mg/m³ OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) 1400 mg/m³ VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	OEL TWA [2]	150 ppm	
OEL TWA [ppm] 150 ppm OEL STEL 1100 mg/m³ OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) [ppm] 400 mg/m³ VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [200 mg/m³	Estonia - Occupational Exposure Limits		
OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA 200 mg/m³ OEL TWA 734 ppm	OEL TWA	500 mg/m ³	
OEL STEL [ppm] 300 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) 1400 mg/m³ VME (OEL TWA) [1] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	OEL TWA [ppm]	150 ppm	
Finland - Occupational Exposure Limits HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA [200 mg/m³ OEL TWA [200 mg/m³ 734 ppm	OEL STEL	1100 mg/m³	
HTP (OEL TWA) [1] 730 mg/m³ HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	OEL STEL [ppm]	300 ppm	
HTP (OEL TWA) [2] 200 ppm HTP (OEL STEL) 1470 mg/m³ HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) 1400 mg/m³ VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	Finland - Occupational Exposure Limits		
HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) 1400 mg/m³ VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	HTP (OEL TWA) [1]	730 mg/m³	
HTP (OEL STEL) [ppm] 400 ppm France - Occupational Exposure Limits VME (OEL TWA) 1400 mg/m³ VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	HTP (OEL TWA) [2]	200 ppm	
France - Occupational Exposure Limits VME (OEL TWA) 1400 mg/m³ VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	HTP (OEL STEL)	1470 mg/m³	
VME (OEL TWA) VME (OEL TWA) [ppm] 400 ppm Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	HTP (OEL STEL) [ppm]	400 ppm	
VME (OEL TWA) [ppm] Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	France - Occupational Exposure Limits		
Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	VME (OEL TWA)	1400 mg/m³	
AGW (OEL TWA) [1] 730 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	VME (OEL TWA) [ppm]	400 ppm	
BGW values are observed) AGW (OEL TWA) [2] 200 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	Germany - Occupational Exposure Limits (TRGS 900)		
BGW values are observed) Gibraltar - Occupational Exposure Limits OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	AGW (OEL TWA) [1]		
OEL TWA 200 mg/m³ OEL TWA [ppm] 734 ppm	AGW (OEL TWA) [2]		
OEL TWA [ppm] 734 ppm	Gibraltar - Occupational Exposure Limits		
	OEL TWA	200 mg/m³	
OEL STEL 400 mg/m³	OEL TWA [ppm]	734 ppm	
	OEL STEL	400 mg/m³	

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Ethyl acetate (141-78-6)		
OEL STEL [ppm]	1468 ppm	
Greece - Occupational Exposure Limits		
OEL TWA	734 mg/m³	
OEL TWA [ppm]	200 ppm	
OEL STEL	1468 mg/m³	
OEL STEL [ppm]	400 ppm	
Hungary - Occupational Exposure Limits		
AK (OEL TWA)	734 mg/m³	
CK (OEL STEL)	1468 mg/m³	
OEL chemical category	Sensitizer	
Ireland - Occupational Exposure Limits		
OEL TWA [1]	734 mg/m³	
OEL TWA [2]	200 ppm	
OEL STEL	1468 mg/m³	
OEL STEL [ppm]	400 ppm	
Italy - Occupational Exposure Limits		
OEL TWA	734 mg/m³	
OEL TWA [ppm]	200 ppm	
OEL STEL	1468 mg/m³	
OEL STEL [ppm]	400 ppm	
Latvia - Occupational Exposure Limits		
OEL TWA	200 mg/m³	
OEL TWA [ppm]	54 ppm	
Lithuania - Occupational Exposure Limits		
IPRV (OEL TWA)	500 mg/m³	
IPRV (OEL TWA) [ppm]	150 ppm	
NRV (OEL C)	1100 mg/m³	
NRV (OEL C) [ppm]	300 ppm	
Luxembourg - Occupational Exposure Limits		
OEL STEL	1468 mg/m³	
OEL STEL [ppm]	400 ppm	
Malta - Occupational Exposure Limits		
OEL TWA	734 mg/m³	
OEL TWA [ppm]	200 ppm	
OEL STEL	1468 mg/m³	
OEL STEL [ppm]	400 ppm	
Netherlands - Occupational Exposure Limits		
TGG-8u (OEL TWA)	734 mg/m³	
TGG-15min (OEL STEL)	1468 mg/m³	

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Ethyl acetate (141-78-6)		
Poland - Occupational Exposure Limits		
NDS (OEL TWA)	734 mg/m³	
NDSCh (OEL STEL)	1468 mg/m³	
Portugal - Occupational Exposure Limits		
OEL TWA	734 mg/m³ (indicative limit value)	
OEL TWA [ppm]	200 ppm (indicative limit value)	
OEL STEL	1468 mg/m³ (indicative limit value)	
OEL STEL [ppm]	400 ppm (indicative limit value)	
Romania - Occupational Exposure Limits		
OEL TWA	400 mg/m³	
OEL TWA [ppm]	111 ppm	
OEL STEL	500 mg/m³	
OEL STEL [ppm]	139 ppm	
Slovakia - Occupational Exposure Limits		
NPHV (OEL TWA) [1]	734 mg/m³	
NPHV (OEL TWA) [2]	200 ppm	
NPHV (OEL C)	1100 mg/m³	
Slovenia - Occupational Exposure Limits		
OEL TWA	734 mg/m³	
OEL TWA [ppm]	200 ppm	
OEL STEL	1468 mg/m³	
OEL STEL [ppm]	400 ppm	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA) [1]	734 mg/m³	
VLA-ED (OEL TWA) [2]	200 ppm	
VLA-EC (OEL STEL)	1468 mg/m³	
VLA-EC (OEL STEL) [ppm]	400 ppm	
Sweden - Occupational Exposure Limits		
NGV (OEL TWA)	550 mg/m³	
NGV (OEL TWA) [ppm]	150 ppm	
KTV (OEL STEL)	1100 mg/m³	
KTV (OEL STEL) [ppm]	300 ppm	
United Kingdom - Occupational Exposure Limits		
WEL TWA (OEL TWA) [1]	734 mg/m³	
WEL TWA (OEL TWA) [2]	200 ppm	
WEL STEL (OEL STEL)	1468 mg/m³	
WEL STEL (OEL STEL) [ppm]	400 ppm	
Norway - Occupational Exposure Limits		
Grenseverdi (OEL TWA) [1]	734 mg/m³	

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Ethyl acetate (141-78-6)		
Grenseverdi (OEL TWA) [2]	200 ppm	
Korttidsverdi (OEL STEL)	1468 mg/m³ (value from the regulation)	
Korttidsverdi (OEL STEL) [ppm]	400 ppm (value from the regulation)	
Switzerland - Occupational Exposure Limits		
MAK (OEL TWA) [1]	730 mg/m³	
MAK (OEL TWA) [2]	200 ppm	
KZGW (OEL STEL)	1460 mg/m³	
KZGW (OEL STEL) [ppm]	400 ppm	
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm]	400 ppm	
Citral (5392-40-5)		
Belgium - Occupational Exposure Limits		
OEL TWA	32 mg/m³ (vapor and aerosol)	
OEL TWA [ppm]	5 ppm (vapor and aerosol)	
OEL chemical category	Skin	
Ireland - Occupational Exposure Limits		
OEL TWA [2]	5 ppm	
OEL STEL [ppm]	15 ppm (calculated)	
Poland - Occupational Exposure Limits		
NDS (OEL TWA)	27 mg/m³	
NDSCh (OEL STEL)	54 mg/m³	
Portugal - Occupational Exposure Limits		
OEL TWA [ppm]	5 ppm	
OEL chemical category	Sensitizer, A4 - Not Classifiable as a Human Carcinogen, skin - potential for cutaneous exposure	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA) [2]	5 ppm (inhalable fraction and vapor)	
OEL chemical category	Sensitizer, skin - potential for cutaneous absorption	
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm]	5 ppm (inhalable fraction and vapor)	
ACGIH chemical category	Not Classifiable as a Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route, dermal sensitizer	

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses

8.2.2.2. Skin protection

Hand protection:

Wear protective gloves.

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

Physical state

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

: Liquid

Colour Standard. Odour characteristic. Odour threshold : No data available рΗ : No data available Relative evaporation rate (butylacetate=1) No data available Melting point : No data available Freezing point : No data available : No data available Boiling point : > 93 °C Flash point

Auto-ignition temperature : No data available Decomposition temperature : No data available : Non flammable. Flammability (solid, gas) : No data available Vapour pressure Relative vapour density at 20 °C : No data available Relative density : No data available Solubility : No data available Partition coefficient n-octanol/water (Log Pow) : No data available Viscosity, kinematic : No data available : No data available Viscosity, dynamic Explosive properties : No data available Oxidising properties : No data available Explosive limits : No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

alpha-Methylcinnamic aldehyde (101-39-3)		
LD50 oral rat	2050 mg/kg	
LD50 oral	2050 mg/kg bodyweight	
LD50 dermal rabbit	> 5 g/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	
Helional (1205-17-0)		
LD50 dermal rabbit	> 2000 mg/kg	
Amyl cinnamic aldehyde (122-40-7)		
LD50 oral rat	3730 mg/kg	
LD50 dermal rabbit	> 2000 mg/kg	
Allyl caproate (123-68-2)		
LD50 oral	300 mg/kg bodyweight	

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Allyl caproate (123-68-2)			
LD50 dermal rabbit	820 mg/kg		
LD50 dermal	300 mg/kg bodyweight		
LC50 Inhalation - Rat (Vapours)	3 mg/l/4h		
Ethyl acetate (141-78-6)			
LD50 oral rat	5620 mg/kg		
LD50 dermal rabbit	> 18000 mg/kg		
LC50 Inhalation - Rat [ppm]	4000 ppm/4h		
Vertenex (32210-23-4)			
LD50 oral rat	5 g/kg		
LD50 oral	3370 mg/kg bodyweight		
LD50 dermal rabbit	> 5000 mg/kg		
Citral (5392-40-5)			
LD50 oral rat	4960 mg/kg		
LD50 dermal rabbit	2250 mg/kg		
LD50 dermal	2250 mg/kg bodyweight		
Hexyl salicylate (6259-76-3)			
LD50 oral rat	> 5 g/kg		
LD50 dermal rabbit	> 5000 mg/kg		
Clove leaf oil (8000-34-8)			
LD50 oral rat	1370 mg/kg		
LD50 oral	2650 mg/kg bodyweight		
LD50 dermal rabbit	1200 mg/kg		
LD50 dermal	2500 mg/kg bodyweight		
Lemon oil (8008-56-8)			
LD50 oral rat	2840 mg/kg		
Eugenol (97-53-0)			
LD50 oral rat	1930 mg/kg		
LD50 oral	2500 mg/kg bodyweight		
Triplal (Vertocitral) (68039-49-6)	Triplal (Vertocitral) (68039-49-6)		
LD50 oral	3900 mg/kg bodyweight		
Linalool (78-70-6)			
LD50 oral	2790 mg/kg bodyweight		
Orange oil (8008-57-9)			
LD50 oral rat	4400 mg/kg		
LD50 dermal rabbit	> 5000 mg/kg		
Additional information :	Not classified Based on available data, the classification criteria are not met Not classified		

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Additional information : Based on available data, the classification criteria are not met

Respiratory or skin sensitisation : Not classified

Additional information Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified

Additional information Based on available data, the classification criteria are not met

Carcinogenicity Not classified

Additional information Based on available data, the classification criteria are not met

Eugenol (97-53-0)

IARC group 3 - Not classifiable

Reproductive toxicity Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-single exposure Not classified

Additional information Based on available data, the classification criteria are not met

Ethyl acetate (141-78-6)

STOT-single exposure May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

Additional information Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Additional information Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met

Potential adverse human health effects and

symptoms

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term : Not classified

Hazardous to the aquatic environment, long-term : Harmful to aquatic life with long lasting effects.

(chronic)

(chronic)		
Allyl caproate (123-68-2)		
LC50 - Fish [1]	0.117 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static])	
Ethyl acetate (141-78-6)		
LC50 - Fish [1]	220 – 250 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])	
LC50 - Fish [2]	484 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])	
EC50 - Crustacea [1]	560 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])	
Vertenex (32210-23-4)		
LC50 - Fish [1]	8.6 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])	
Citral (5392-40-5)		
EC50 - Crustacea [1]	7 mg/l (Exposure time: 48 h - Species: Daphnia magna)	
EC50 72h - Algae [1]	16 mg/l (Species: Desmodesmus subspicatus)	
EC50 96h - Algae [1]	19 mg/l (Species: Desmodesmus subspicatus)	
Eugenol (97-53-0)		
LC50 - Fish [1]	13 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static])	
Linalool (78-70-6)		
EC50 96h - Algae [1]	88.3 mg/l (Species: Desmodesmus subspicatus)	

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12.2. Persistence and degradability

Mulled Wine CC-16291 at 10% in DPG	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Mulled Wine CC-16291 at 10% in DPG		
Bioaccumulative potential	Not established.	
Helional (1205-17-0)		
Partition coefficient n-octanol/water (Log Pow)	2.4 (at 25 °C)	
Amyl cinnamic aldehyde (122-40-7)		
Partition coefficient n-octanol/water (Log Pow)	2.498 (at 25 °C (at pH 6.2)	
Allyl caproate (123-68-2)		
Partition coefficient n-octanol/water (Log Pow)	3.191 (at 20 °C (at pH 5)	
Isoamyl acetate (123-92-2)		
Partition coefficient n-octanol/water (Log Pow)	2.7 (at 35 °C)	
Ethyl acetate (141-78-6)		
BCF - Fish [1]	(30 dimensionless)	
Partition coefficient n-octanol/water (Log Pow)	0.73 (at 20 °C (at pH 7)	
Vertenex (32210-23-4)		
Partition coefficient n-octanol/water (Log Pow)	4.8 (at 25 °C)	
Citral (5392-40-5)		
Partition coefficient n-octanol/water (Log Pow)	2.76 (at 25 °C)	
Hexyl salicylate (6259-76-3)		
Partition coefficient n-octanol/water (Log Pow)	5.5 (at 30 °C (at pH 7)	
Eugenol (97-53-0)		
Partition coefficient n-octanol/water (Log Pow)	1.83 (at 30 °C (at pH 5.5)	

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations

: Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

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SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1 UN number

UN-No. (ADR) : Not applicable UN-No. (IMDG) : Not applicable UN-No. (IATA) : Not applicable UN-No. (ADN) : Not applicable UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

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Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

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 dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide	

Germany

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

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

List of sensitizing substances (TRGS 907) : Contains sensitizing substances according TRGS 907

Netherlands

SZW-lijst van kankerverwekkende stoffen : Lemon oil ,Triplal (Vertocitral),Orange oil are listed

SZW-lijst van mutagene stoffen : Lemon oil ,Triplal (Vertocitral),Orange oil are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed SZW-lijst van reprotoxische stoffen – : None of the components are listed

Vruchtbaarheid

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 : 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

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SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE

COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and

amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:		
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3	
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	
EUH208	Contains alpha-Methylcinnamic aldehyde, Hexyl cinnamic aldehyde, Helional, Amyl cinnamic aldehyde, Vertenex, Citral, Iso E Super, Hexyl salicylate, Clove leaf oil, Lemon oil, Eugenol, Triplal (Vertocitral), Linalool, Orange oil, beta-Caryophyllene. May produce an allergic reaction.	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
Flam. Liq. 1	Flammable liquids, Category 1	
Flam. Liq. 3	Flammable liquids, Category 3	
H224	Extremely flammable liquid and vapour.	
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.	
H315	Causes skin irritation.	
H317	May cause an allergic skin reaction.	
H319	Causes serious eye irritation.	
H331	Toxic if inhaled.	
H336	May cause drowsiness or dizziness.	
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	

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Full text of H- and EUH-statements:	
Skin Sens. 1B	Skin sensitisation, category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

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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.

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