

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878 Issue date: 6/25/2024 Version: 1.0

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

#### 1.1. Product identifier

Product form : Mixture

Product name : Winter White Candles 2024

Product code : SKU: 45375333000, 46261333000, 46262333000, 46284333000, 46280333000,

45364333000, 46263333000

Product group : Trade product

UFI : **GAS8-40KY-210U-JJYJ** (4537533300, 4626233300, 4628433300,

4628033300, 4626133300)

47UT-42EX-MA0P-HG2T (4536433300, 4626333300)

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Candles

#### 1.2.2. Uses advised against

No additional information available

## 1.3. Details of the supplier of the safety data sheet

Illume Candles 10501 Elm Creek Boulevard N Minneapolis, MN 55369 T (952) 885-9600 illumecandles.com

EU Address Bloomingville A/S Lene Haus Vej 3-5 DK-7430 Ikast www.bloomingville.com

## 1.4. Emergency telephone number

Emergency number : Bloomingville no. +45 9626 4645. Office hours 8-16.00 Monday-Thursday. 8-14.00 Friday.

Danish Toxic line +45 8212 1212

## **SECTION 2: Hazards identification**

#### 2.1. Classification of the substance or mixture

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

Skin sensitisation, Category 1 H317
Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412

Full text of H-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]

Hazard pictograms (CLP) :



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Signal word (CLP) : Warning

Hazard statements (CLP) : H317 - May cause an allergic skin reaction.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing

protection.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse.

## 2.3. Other hazards

Other hazards which do not result in classification : Risk of thermal burns on contact with molten product.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## **SECTION 3: Composition/information on ingredients**

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethanone, 1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthalenyl)-	CAS-No.: 54464-57-2 EC-No.: 259-174-3	0.1 – 1	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
D-Limonene	CAS-No.: 5989-27-5 EC-No.: 227-813-5 EC Index-No.: 601-029-00-7	0.1 – 1	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Eugenol	CAS-No.: 97-53-0 EC-No.: 202-589-1	0.1 – 1	Eye Irrit. 2, H319 Skin Sens. 1A, H317
Cinnamaldehyde	CAS-No.: 104-55-2 EC-No.: 203-213-9	0.1 – 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Cyclododecane	CAS-No.: 58567-11-6 EC-No.: 261-332-1	0.1 – 1	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 2, H411
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	CAS-No.: 68039-49-6 EC-No.: 268-264-1	0.1 – 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
.alphaPinene	CAS-No.: 80-56-8 EC-No.: 201-291-9	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethyl-	CAS-No.: 13466-78-9 EC-No.: 236-719-3	0.1 – 1	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304
.betaPinene	CAS-No.: 127-91-3 EC-No.: 204-872-5	0.1 – 1	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304

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

## **SECTION 4: First Aid measures**

#### 4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an

unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water

for at least 15 minutes. If irritation develops or persists, get medical attention.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact

lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops  $\frac{1}{2}$ 

or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from

poison control center. Get medical attention if you feel unwell.

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

Symptoms/effects: May cause an allergic skin reaction.Symptoms/effects after inhalation: May cause respiratory irritation.Symptoms/effects after skin contact: May cause an allergic skin reaction.

Symptoms/effects after eye contact : Direct contact with eyes is likely to be irritating.

Symptoms/effects after ingestion : May cause gastrointestinal irritation.

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

No additional information available

#### **SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

Suitable extinguishing media : Dry chemical. Carbon dioxide. Alcohol-resistant foam.

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

## 5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

Explosion hazard : Product is not explosive.

Reactivity in case of fire : None known.

Hazardous decomposition products in case of fire : No information available.

## 5.3. Advice for firefighters

Precautionary measures fire : Eliminate all ignition sources if safe to do so.

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Firefighting instructions : Use cold water spray to cool fire-exposed containers to minimize risk of rupture. Do not

dispose of fire-fighting water in the environment. Dispose of in accordance with relevant local regulations. Prevent human exposure to fire, fumes, smoke and products of

combustion.

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

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained cleaning

personnel properly equipped with respiratory and eye protection.

6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".

## 6.2. Environmental precautions

Notify authorities if product enters sewers or public waters. Prevent entry to sewers and public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or

streams. Prevent entry to sewers and public waters.

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

Place in a suitable container for disposal in accordance with the waste regulations (see

Section 13).

#### 6.4. Reference to other sections

No additional information available

## **SECTION 7: Handling and storage**

## 7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment. Do not handle until all safety precautions have been

read and understood. Ensure good ventilation of the work station. Keep away from heat, hot

surfaces, sparks, open flames and other ignition sources. No smoking.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Protect from sunlight. Keep away from ignition

sources. Store away from incompatible materials. Protect from moisture.

## 7.3. Specific end use(s)

Candles.

## **SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

#### 8.1.1. National occupational exposure and biological limit values

## Paraffin waxes and Hydrocarbon waxes (8002-74-2)

#### **Belgium - Occupational Exposure Limits**

OEL TWA 2 mg/m³ (fume)

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Paraffin waxes and Hydrocarbon waxes (8002-74-2)		
Croatia - Occupational Exposure Limits		
GVI (OEL TWA) [1]	2 mg/m³ (fume)	
KGVI (OEL STEL)	6 mg/m³ (fume)	
Denmark - Occupational Exposure Limits		
OEL TWA [1]	2 mg/m³ (fume)	
OEL STEL	4 mg/m³ (fume)	
Estonia - Occupational Exposure Limits		
OEL TWA	2 mg/m³ (fume)	
Finland - Occupational Exposure Limits		
HTP (OEL TWA) [1]	1 mg/m³ (fume)	
France - Occupational Exposure Limits		
VME (OEL TWA)	2 mg/m³ (fume)	
Greece - Occupational Exposure Limits		
OEL TWA	2 mg/m³ (fume)	
OEL STEL	6 mg/m³ (fume)	
Ireland - Occupational Exposure Limits		
OEL TWA [1]	2 mg/m³ (fume)	
OEL STEL	6 mg/m³ (respirable dust)	
Poland - Occupational Exposure Limits		
NDS (OEL TWA)	2 mg/m³ (inhalable fraction)	
Portugal - Occupational Exposure Limits		
OEL TWA	2 mg/m³ (fume)	
Romania - Occupational Exposure Limits		
OEL TWA	2 mg/m³ (fume)	
OEL STEL	6 mg/m³ (fume)	
Slovakia - Occupational Exposure Limits		
NPHV (OEL TWA) [1]	2 mg/m³ (fume)	
NPHV (OEL C)	6 mg/m³ (fume)	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA) [1]	2 mg/m³	
United Kingdom - Occupational Exposure Limits		
WEL TWA (OEL TWA) [1]	2 mg/m³ (fume)	
WEL STEL (OEL STEL)	6 mg/m³ (fume)	
Norway - Occupational Exposure Limits		
Grenseverdi (OEL TWA) [1]	2 mg/m³ (fume)	
Korttidsverdi (OEL STEL)	4 mg/m³ (value calculated-fume)	
Switzerland - Occupational Exposure Limits		
MAK (OEL TWA) [1]	2 mg/m³ (respirable dust)	

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Paraffin waxes and Hydrocarbon waxes (8002-74-2)		
USA - ACGIH - Occupational Exposure Limits		
Local name	Paraffin wax fume	
ACGIH OEL TWA	2 mg/m³ (fume)	
Remark (ACGIH)	TLV® Basis: URT irr; nausea	
Regulatory reference	ACGIH 2024	
D-Limonene (5989-27-5)		
Finland - Occupational Exposure Limits		
HTP (OEL TWA) [1]	140 mg/m³	
HTP (OEL TWA) [2]	25 ppm	
HTP (OEL STEL)	50 mg/m³ (15 min. average)	
HTP (OEL STEL) [ppm]	280 ppm (15 min. average)	
Germany - Occupational Exposure Limits (TRGS 90	00)	
AGW (OEL TWA) [1]	28 mg/m³ (skin)	
AGW (OEL TWA) [2]	5 ppm (skin)	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA) [1]	168 mg/m³ (skin)	
VLA-ED (OEL TWA) [2]	30 ppm (skin)	
Norway - Occupational Exposure Limits		
Grenseverdi (OEL TWA) [1]	140 mg/m³	
Grenseverdi (OEL TWA) [2]	25 ppm	
Switzerland - Occupational Exposure Limits		
MAK (OEL TWA) [1]	40 mg/m³	
MAK (OEL TWA) [2]	7 ppm	
KZGW (OEL STEL)	80 mg/m³	
KZGW (OEL STEL) [ppm]	14 ppm	
USA - ACGIH - Occupational Exposure Limits		
Remark (ACGIH)	OELs not established	
.alphaPinene (80-56-8)		
Belgium - Occupational Exposure Limits		
OEL TWA	20 ppm	
Estonia - Occupational Exposure Limits		
OEL TWA	150 mg/m³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)	
OEL TWA	25 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)	
OEL STEL	300 mg/m³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)	
OEL STEL	50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)	

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.alphaPinene (80-56-8)		
Lithuania - Occupational Exposure Limits		
IPRV (OEL TWA)	150 mg/m³	
IPRV (OEL TWA) [ppm]	25 ppm	
TPRV (OEL STEL)	300 mg/m³	
TPRV (OEL STEL) [ppm]	50 ppm	
Portugal - Occupational Exposure Limits		
OEL TWA	20 ppm (Turpentine and selected Monoterpenes)	
Chemical category	Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA) [1]	113 mg/m³	
VLA-ED (OEL TWA) [2]	20 ppm	
Chemical category	Sensitizer	
Sweden - Occupational Exposure Limits		
NGV (OEL TWA)	150 mg/m³	
NGV (OEL TWA) [ppm]	25 ppm	
KGV (OEL STEL)	300 mg/m³ (1); (1) 15 minutes average value	
KGV (OEL STEL) [ppm]	50 ppm (1); (1) 15 minutes average value	
Anmärkning (SE)	(1) 15 minutes average value	
Chemical category	Sensitizer	
Norway - Occupational Exposure Limits		
Grenseverdi (OEL TWA) [1]	140 mg/m³	
Grenseverdi (OEL TWA) [2]	25 ppm	
Korttidsverdi (OEL STEL)	175 mg/m³ (value calculated)	
Korttidsverdi (OEL STEL) [ppm]	37.5 ppm (value calculated)	
Chemical category	Skin notation	
USA - ACGIH - Occupational Exposure Limits		
Local name	α-Pinene	
ACGIH OEL TWA [ppm]	20 ppm	
Remark (ACGIH)	TLV® Basis: Lung irr. Notations: DSEN; A4 (Not classifiable as a Human Carcinogen)	
ACGIH chemical category	Not Classifiable as a Human Carcinogen, dermal sensitizer	
Regulatory reference	ACGIH 2024	
.betaPinene (127-91-3)		
Belgium - Occupational Exposure Limits		
OEL TWA	20 ppm	
Denmark - Occupational Exposure Limits		
OEL TWA [1]	140 mg/m³	
OEL TWA [2]	25 ppm	
OEL STEL	280	
OEL STEL	50 ppm	

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.betaPinene (127-91-3)	
Estonia - Occupational Exposure Limits	
OEL TWA	150 mg/m³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
OEL TWA	25 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
OEL STEL	300 mg/m³ (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
OEL STEL	50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	150 mg/m³
IPRV (OEL TWA) [ppm]	25 ppm
TPRV (OEL STEL)	300 mg/m³
TPRV (OEL STEL) [ppm]	50 ppm
Portugal - Occupational Exposure Limits	
OEL TWA	20 ppm (Turpentine and selected Monoterpenes)
Chemical category	Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	113 mg/m³
VLA-ED (OEL TWA) [2]	20 ppm
Chemical category	Sensitizer
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	150 mg/m³
NGV (OEL TWA) [ppm]	25 ppm
KGV (OEL STEL)	300 mg/m³ (1); (1) 15 minutes average value
KGV (OEL STEL) [ppm]	50 ppm (1); (1) 15 minutes average value
Anmärkning (SE)	(1) 15 minutes average value
Chemical category	Sensitizer
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	140 mg/m³
Grenseverdi (OEL TWA) [2]	25 ppm
Korttidsverdi (OEL STEL)	175 mg/m³ (value calculated)
Korttidsverdi (OEL STEL) [ppm]	37.5 ppm (value calculated)
USA - ACGIH - Occupational Exposure Limits	
Local name	β-Pinene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: Lung irr. Notations: DSEN; A4 (Not classifiable as a Human Carcinogen)
ACGIH chemical category	Not Classifiable as a Human Carcinogen, dermal sensitizer
Regulatory reference	ACGIH 2024

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Belgium - Occupational Exposure Limits         20 pm           Estonia - Occupational Exposure Limits         150 mg/m² (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)           OEL TWA         255 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)           OEL STEL         300 mg/m² (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)           OEL STEL         50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)           Chemical category         50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)           PREV (DEL TWA)         150 mg/m²           IPREV (OEL TWA)         150 mg/m²           IPREV (OEL TWA)         150 mg/m²           PREV (OEL STEL)         300 mg/m²           Protugal - Occupational Exposure Limits         50 ppm           Chemical category         Senatizer coniferous resin sensitizes the skin           Portugal - Occupational Exposure Limits         50 ppm (Turpentine, including monoterpenes)           VA-ED (OEL TWA) [1]         113 mg/m² (Turpentine, including monoterpenes)           VA-ED	Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethyl- (13	466-78-9)	
Estonia - Occupational Exposure Limits  OEL TWA 150 mg/m² (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes, with the exception of 3-Carene, have a lesser effect).  OEL TWA 25 pm (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes, with the exception of 3-Carene, have a lesser effect).  OEL STEL 300 mg/m² (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes, with the exception of 3-Carene, have a lesser effect).  OEL STEL 50 pm (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes, with the exception of 3-Carene, have a lesser effect).  Chemical category 5 pm. Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes, with the exception of 3-Carene, have a lesser effect).  Chemical category 5 pm. Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes, with the exception of 3-Carene, have a lesser effect).  Chemical category 5 pm. Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes, with the exception of 3-Carene, have a lesser effect).  TPRV (OEL TWA) [ppm] 25 pm.  TPRV (OEL STEL) [ppm] 50 pm.  Chemical category 5 pm.  Tended Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an irritating effect on the skin. monoterpenes and produced from Nordic conifers has an ir	Belgium - Occupational Exposure Limits		
DEL TWA  150 mg/m² (Turpentine produced from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  OEL STEL  300 mg/m² (Turpentine produced from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  OEL STEL  300 mg/m² (Turpentine produced from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  OEL STEL  50 ppm (Turpentine produced from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  Chemical category  50 ppm (Turpentine produced from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  Chemical category  50 ppm (Turpentine produced from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  Chemical category  50 ppm (Turpentine and selected from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  Chemical category  50 ppm (Turpentine and selected from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  Chemical category  50 ppm (Turpentine and selected from Nordic conflers has an irritating effect on the skin, monoterpenes, with the exception of 3-Carene, have a lesser effect)  Chemical category  50 ppm (Turpentine and selected Monoterpenes)  Chemical category  61 ppm (Turpentine and selected Monoterpenes)  Chemical category  62 ppm (Turpentine and selected Monoterpenes)  Chemical category  63 ppm	OEL TWA	20 ppm	
monoterpanes, with the exception of 3-Carene, have a lesser effect on the skin. monoterpanes, with the exception of 3-Carene, have a lesser effect on the skin. monoterpanes, with the exception of 3-Carene, have a lesser effect)  OEL STEL   300 mg/m² (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpanes, with the exception of 3-Carene, have a lesser effect)  OEL STEL   50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpanes, with the exception of 3-Carene, have a lesser effect)  Chemical category   50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpanes, with the exception of 3-Carene, have a lesser effect)  Chemical category   50 ppm (Turpentine produced from Nordic conifers has an irritating effect on the skin. monoterpanes, with the exception of 3-Carene, have a lesser effect)  PREV (OEL TWA) (ppm)   25 ppm   70 ppm (Propentine Produced from Nordic conifers has an irritating effect on the skin. monoterpanes, with the exception of 3-Carene, have a lesser effect)  PREV (OEL TWA) (ppm)   25 ppm   70 ppm (Propentine Produced from Nordic conifers has an irritating effect on the skin. monoterpanes)  Prev (OEL TWA) (ppm)   50 ppm   70 ppm (Turpentine and selected Monoterpanes)  Previous - Occupational Exposure Limits  Previous - Occupational Exposure Limits - VIED (OEL TWA) (ppm)   113 mg/m² (Turpentine, including monoterpanes)  Previous - Occupational Exposure Limits  Previous - Occupational Exposure Lim	Estonia - Occupational Exposure Limits		
monotorpones, with the exception of 3-Carene, have a lesser effect)	OEL TWA		
monoterpenes, with the exception of 3-Carene, have a lesser effect)	OEL TWA		
Chemical category         Sensitizer           Lithuania - Occupational Exposure Limits           IPRV (OEL TWA)         150 mg/m²           IPRV (OEL TWA) [ppm]         25 ppm           TPRV (OEL STEL)         300 mg/m²           TPRV (OEL STEL) [ppm]         50 ppm           Chemical category         Sensitizer coniferous resin sensitizes the skin           Portugal - Occupational Exposure Limits           Chemical category         Sensitizer demai, A4 - Not Classifiable as a Human Carcinogen           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA) [1]         113 mg/m² (Turpentine, including monoterpenes)           VLA-ED (OEL TWA) [2]         20 ppm (Turpentine, including monoterpenes)           Chemical category         Sensitizer           Swedon - Occupational Exposure Limits           Novy (OEL TWA) [2)         25 ppm           KGV (OEL TWA) [ppm]         25 ppm           KGV (OEL STEL) [ppm]         50 ppm           Chemical category         Sensitizer           Norway - Occupational Exposure Limits           Norway - Occupational Exposure Limits           Norway - Occupational Exposure Limits           Norway - Occ	OEL STEL		
Lithuania - Occupational Exposure Limits  PRV (OEL TWA)   150 mg/m³  PRV (OEL STEL)   300 mg/m³  TPRV (OEL STEL)   50 ppm  Chemical category   50 ppm (Turpentine and selected Monoterpenes)  Chemical category   50 ppm (Turpentine and selected Monoterpenes)  Chemical category   50 ppm (Turpentine and selected Monoterpenes)  Portugal - Occupational Exposure Limits  VLA-ED (OEL TWA) [1]   113 mg/m³ (Turpentine, including monoterpenes)  Chemical category   50 ppm (Turpentine, including monoterpenes)  Chemical category   50 ppm (Turpentine, including monoterpenes)  VLA-ED (OEL TWA) [2]   20 ppm (Turpentine, including monoterpenes)  VLA-ED (OEL TWA) [2]   20 ppm (Turpentine, including monoterpenes)  Sweden - Occupational Exposure Limits  NGV (OEL TWA)   150 mg/m³  NGV (OEL TWA)   150 mg/m³  NGV (OEL STEL)   300 mg/m³  KGV (OEL STEL)   300 mg/m³  KGV (OEL STEL)   50 ppm  Chemical category   50 ppm  Grenseverdi (OEL TWA) [1]   140 mg/m³  Grenseverdi (OEL TWA) [2]   25 ppm  Kortidsverdi (OEL STEL)   70 mg/m² (value calculated)  Kortidsverdi (OEL STEL)   50 ppm (value calculated)  Chemical category   Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name   4.3-Carene	OEL STEL		
PRV (OEL TWA)   150 mg/m³     PRV (OEL TWA) [ppm]   25 ppm     TPRV (OEL STEL)   300 mg/m³     TPRV (OEL STEL) [ppm]   50 ppm     Chemical category   Sensitizer coniferous resin sensitizes the skin     Portugal - Occupational Exposure Limits     CEL TWA   20 ppm (Turpentine and selected Monoterpenes)     Chemical category   Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen     Spain - Occupational Exposure Limits     VLA-ED (OEL TWA) [1]   113 mg/m³ (Turpentine, including monoterpenes)     VLA-ED (OEL TWA) [2]   20 ppm (Turpentine, including monoterpenes)     VLA-ED (OEL TWA) [2]   20 ppm (Turpentine, including monoterpenes)     VLA-ED (OEL TWA) [2]   20 ppm (Turpentine, including monoterpenes)     VLA-ED (OEL TWA) [2]   20 ppm (Turpentine, including monoterpenes)     VLA-ED (OEL TWA) [2]   25 ppm (Turpentine, including monoterpenes)     VLA-ED (OEL TWA) [2]   55 ppm     VLA-ED (OEL TWA) [2]   55 ppm     VLA-ED (OEL TWA) [2]   50 ppm     VLA-ED (OEL TWA) [2]   50 ppm     VLA-ED (OEL TWA) [2]   50 ppm     VLA-ED (OEL TWA) [30 mg/m³   50 ppm     VLA-ED (OEL TWA) [41]   140 mg/m³     VLA-ED (OEL TWA) [41]	Chemical category	Sensitizer	
PRV (OEL TWA) [ppm]   25 ppm	Lithuania - Occupational Exposure Limits		
TPRV (OEL STEL) [ppm] 50 ppm Chemical category Sensitizer coniferous resin sensitizes the skin  Portugal - Occupational Exposure Limits OEL TWA 20 ppm (Turpentine and selected Monoterpenes) Chemical category Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen  Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 113 mg/m² (Turpentine, including monoterpenes) VLA-ED (OEL TWA) [2] 20 ppm (Turpentine, including monoterpenes) VLA-ED (OEL TWA) [2] 20 ppm (Turpentine, including monoterpenes)  Sweden - Occupational Exposure Limits  NGV (OEL TWA) [1] 150 mg/m²  NGV (OEL TWA) [1] 25 ppm  KGV (OEL TWA) [1] 20 ppm (Turpentine, including monoterpenes)  NGV (OEL TWA) [1] 300 mg/m²  KGV (OEL STEL) 300 mg/m²  KGV (OEL STEL) [100 mg/m²  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m²  Grenseverdi (OEL TWA) [2] 25 ppm  Kottidsverdi (OEL STEL) [20 mg/m² (value calculated)  Kottidsverdi (OEL STEL) [20 mg/m² (value calculated)  Kottidsverdi (OEL STEL) [20 mg/m² (value calculated)  Chemical category Allergenic substance  USA-ACGIH - Occupational Exposure Limits  Local name	IPRV (OEL TWA)	150 mg/m³	
TPRV (OEL STEL) [ppm]         50 ppm           Chemical category         Sensitizer coniferous resin sensitizes the skin           Portugal - Occupational Exposure Limits         20 ppm (Turpentine and selected Monoterpenes)           Chemical category         Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA) [1]         113 mg/m² (Turpentine, including monoterpenes)           VLA-ED (OEL TWA) [2]         20 ppm (Turpentine, including monoterpenes)           Chemical category         Sensitizer           Sweden - Occupational Exposure Limits           NGV (OEL TWA) [ppm]         25 ppm           KGV (OEL STEL) [ppm]         300 mg/m³           KGV (OEL STEL) [ppm]         50 ppm           Chemical category         Sensitizer           Norway - Occupational Exposure Limits           Grenseverdi (OEL TWA) [1]         140 mg/m²           Genseverdi (OEL TWA) [2]         25 ppm           Kortidsverdi (OEL STEL) [ppm]         37.5 ppm (value calculated)           Kortidsverdi (OEL STEL) [ppm]         37.5 ppm (value calculated)           Chemical category         Allergenic substance           USA - ACGIH - Occupational Exposure Limits	IPRV (OEL TWA) [ppm]	25 ppm	
Chemical category Sensitizer coniferous resin sensitizes the skin  Portugal - Occupational Exposure Limits  OEL TWA 20 ppm (Turpentine and selected Monoterpenes) Chemical category Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen  Spain - Occupational Exposure Limits  VLA-ED (OEL TWA) [1] 113 mg/m³ (Turpentine, including monoterpenes)  VLA-ED (OEL TWA) [2] 20 ppm (Turpentine, including monoterpenes)  Chemical category Sensitizer  Sweden - Occupational Exposure Limits  NGV (OEL TWA) [150 mg/m³  NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m²  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name	TPRV (OEL STEL)	300 mg/m³	
Portugal - Occupational Exposure Limits  OEL TWA 20 pm (Turpentine and selected Monoterpenes) Chemical category Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen  Spain - Occupational Exposure Limits  VLA-ED (OEL TWA) [1] 113 mg/m³ (Turpentine, including monoterpenes) VLA-ED (OEL TWA) [2] 20 pm (Turpentine, including monoterpenes)  Chemical category Sensitizer  Sweden - Occupational Exposure Limits  NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name A-3-Carene	TPRV (OEL STEL) [ppm]	50 ppm	
Cel TWA 20 ppm (Turpentine and selected Monoterpenes) Chemical category Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen  Spain - Occupational Exposure Limits  VLA-ED (OEL TWA) [1] 113 mg/m³ (Turpentine, including monoterpenes)  VLA-ED (OEL TWA) [2] 20 ppm (Turpentine, including monoterpenes)  Chemical category Sensitizer  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 150 mg/m³  NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Alergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name	Chemical category	Sensitizer coniferous resin sensitizes the skin	
Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen  Spain - Occupational Exposure Limits  VLA-ED (OEL TWA) [1] 113 mg/m³ (Turpentine, including monoterpenes)  VLA-ED (OEL TWA) [2] 20 ppm (Turpentine, including monoterpenes)  Chemical category Sensitizer  Sweden - Occupational Exposure Limits  NGV (OEL TWA) [2] 150 mg/m³  NGV (OEL TWA) [2] 25 ppm  KGV (OEL TWA) [2] 300 mg/m³  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [200 mg/m³  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) [200 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [200 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [200 mg/m³ (value calculated)  Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name A-3-Carene	Portugal - Occupational Exposure Limits		
Spain - Occupational Exposure Limits  VLA-ED (OEL TWA) [1] 113 mg/m³ (Turpentine, including monoterpenes)  VLA-ED (OEL TWA) [2] 20 ppm (Turpentine, including monoterpenes)  Chemical category Sensitizer  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 150 mg/m³  NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Kottidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Kottidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	OEL TWA	20 ppm (Turpentine and selected Monoterpenes)	
VLA-ED (OEL TWA) [1]         113 mg/m³ (Turpentine, including monoterpenes)           VLA-ED (OEL TWA) [2]         20 ppm (Turpentine, including monoterpenes)           Chemical category         Sensitizer           Sweden - Occupational Exposure Limits           NGV (OEL TWA)         150 mg/m³           NGV (OEL TWA) [ppm]         25 ppm           KGV (OEL STEL)         300 mg/m³           KGV (OEL STEL) [ppm]         50 ppm           Chemical category         Sensitizer           Norway - Occupational Exposure Limits           Grenseverdi (OEL TWA) [1]         140 mg/m³           Grenseverdi (OEL TWA) [2]         25 ppm           Korttidsverdi (OEL STEL)         175 mg/m³ (value calculated)           Korttidsverdi (OEL STEL) [ppm]         37.5 ppm (value calculated)           Chemical category         Allergenic substance           USA - ACGIH - Occupational Exposure Limits           Local name         Δ-3-Carene	Chemical category	Sensitizer dermal, A4 - Not Classifiable as a Human Carcinogen	
VLA-ED (OEL TWA) [2] 20 ppm (Turpentine, including monoterpenes)  Chemical category Sensitizer  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 150 mg/m³  NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Kottidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	Spain - Occupational Exposure Limits		
Chemical category Sensitizer  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 150 mg/m³  NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name  Δ-3-Carene	VLA-ED (OEL TWA) [1]	113 mg/m³ (Turpentine, including monoterpenes)	
Sweden - Occupational Exposure Limits  NGV (OEL TWA) 150 mg/m³  NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	VLA-ED (OEL TWA) [2]	20 ppm (Turpentine, including monoterpenes)	
NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	Chemical category	Sensitizer	
NGV (OEL TWA) [ppm] 25 ppm  KGV (OEL STEL) 300 mg/m³  KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	Sweden - Occupational Exposure Limits		
KGV (OEL STEL)       300 mg/m³         KGV (OEL STEL) [ppm]       50 ppm         Chemical category       Sensitizer         Norway - Occupational Exposure Limits         Grenseverdi (OEL TWA) [1]       140 mg/m³         Grenseverdi (OEL TWA) [2]       25 ppm         Korttidsverdi (OEL STEL)       175 mg/m³ (value calculated)         Korttidsverdi (OEL STEL) [ppm]       37.5 ppm (value calculated)         Chemical category       Allergenic substance         USA - ACGIH - Occupational Exposure Limits         Local name       Δ-3-Carene	NGV (OEL TWA)	150 mg/m³	
KGV (OEL STEL) [ppm] 50 ppm  Chemical category Sensitizer  Norway - Occupational Exposure Limits  Grenseverdi (OEL TWA) [1] 140 mg/m³  Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	NGV (OEL TWA) [ppm]	25 ppm	
Chemical category       Sensitizer         Norway - Occupational Exposure Limits         Grenseverdi (OEL TWA) [1]       140 mg/m³         Grenseverdi (OEL TWA) [2]       25 ppm         Korttidsverdi (OEL STEL)       175 mg/m³ (value calculated)         Korttidsverdi (OEL STEL) [ppm]       37.5 ppm (value calculated)         Chemical category       Allergenic substance         USA - ACGIH - Occupational Exposure Limits         Local name       Δ-3-Carene	KGV (OEL STEL)	300 mg/m³	
Norway - Occupational Exposure Limits         Grenseverdi (OEL TWA) [1]       140 mg/m³         Grenseverdi (OEL TWA) [2]       25 ppm         Korttidsverdi (OEL STEL)       175 mg/m³ (value calculated)         Korttidsverdi (OEL STEL) [ppm]       37.5 ppm (value calculated)         Chemical category       Allergenic substance         USA - ACGIH - Occupational Exposure Limits         Local name       Δ-3-Carene	KGV (OEL STEL) [ppm]	50 ppm	
Grenseverdi (OEL TWA) [1]     140 mg/m³       Grenseverdi (OEL TWA) [2]     25 ppm       Korttidsverdi (OEL STEL)     175 mg/m³ (value calculated)       Korttidsverdi (OEL STEL) [ppm]     37.5 ppm (value calculated)       Chemical category     Allergenic substance       USA - ACGIH - Occupational Exposure Limits       Local name     Δ-3-Carene	Chemical category	Sensitizer	
Grenseverdi (OEL TWA) [2] 25 ppm  Korttidsverdi (OEL STEL) 175 mg/m³ (value calculated)  Korttidsverdi (OEL STEL) [ppm] 37.5 ppm (value calculated)  Chemical category Allergenic substance  USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	Norway - Occupational Exposure Limits	<del>- '</del>	
Korttidsverdi (OEL STEL)       175 mg/m³ (value calculated)         Korttidsverdi (OEL STEL) [ppm]       37.5 ppm (value calculated)         Chemical category       Allergenic substance         USA - ACGIH - Occupational Exposure Limits         Local name       Δ-3-Carene	Grenseverdi (OEL TWA) [1]	140 mg/m³	
Korttidsverdi (OEL STEL) [ppm]       37.5 ppm (value calculated)         Chemical category       Allergenic substance         USA - ACGIH - Occupational Exposure Limits         Local name       Δ-3-Carene	Grenseverdi (OEL TWA) [2]	25 ppm	
Chemical category     Allergenic substance       USA - ACGIH - Occupational Exposure Limits       Local name     Δ-3-Carene	Korttidsverdi (OEL STEL)	175 mg/m³ (value calculated)	
USA - ACGIH - Occupational Exposure Limits  Local name Δ-3-Carene	Korttidsverdi (OEL STEL) [ppm]	37.5 ppm (value calculated)	
Local name Δ-3-Carene	Chemical category	Allergenic substance	
	USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm] 20 ppm		Δ-3-Carene	
	ACGIH OEL TWA [ppm]	20 ppm	

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Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethyl- (13466-78-9)	
Remark (ACGIH)	TLV® Basis: Lung irr. Notations: DSEN; A4 (Not classifiable as a Human Carcinogen)
ACGIH chemical category	Not Classifiable as a Human Carcinogen, dermal sensitizer
Regulatory reference	ACGIH 2024

#### 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:

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

#### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Gloves. Protective goggles. Wear labcoat with full coverage clothing.

#### Personal protective equipment symbol(s):







#### 8.2.2.1. Eye and face protection

#### Eye protection:

Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles [EN 166]

#### 8.2.2.2. Skin protection

## Skin and body protection:

Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure. [EN 14605:2005 and EN 13034:2005]

#### Hand protection

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

## 8.2.2.3. Respiratory protection

#### Respiratory protection:

Where vapour, mist, or dust exceed PELs or other applicable OELs, use European Standard EN 529:2005 approved dust/particulate respiratory protective equipment

#### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

No additional information available

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## **SECTION 9: Physical and chemical properties**

## 9.1. Information on basic physical and chemical properties

Physical state : Solid Colour : Not available Characteristic. Odour Not available Odour threshold Melting point Not available Freezing point Not available Boiling point Not available Flammability : Not available **Explosive limits** : Not applicable Lower explosive limit (LEL) : Not applicable Upper explosive limit (UEL) : Not applicable : Not applicable Flash point : Not applicable Auto-ignition temperature Decomposition temperature : Not available рΗ : Not available pH solution : Not available Viscosity, kinematic : Not applicable Solubility : Not available Partition coefficient n-octanol/water (Log Kow) : Not available : Not available Vapour pressure Vapour pressure at 50°C : Not available Density : Not available Relative density : Not available Relative vapour density at 20°C : Not applicable Particle size : Not available Particle size distribution : Not available : Not available Particle shape : Not available Particle aspect ratio : Not available Particle aggregation state : Not available Particle agglomeration state Particle specific surface area : Not available Particle dustiness : Not available

#### 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

No dangerous reactions known under normal conditions of use.

## 10.2. Chemical stability

Stable under normal conditions.

## 10.3. Possibility of hazardous reactions

None under normal conditions.

## 10.4. Conditions to avoid

None under normal use.

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## 10.5. Incompatible materials

None known.

## 10.6. Hazardous decomposition products

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

## **SECTION 11: Toxicological information**

## 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Acute toxicity (inhalation)	Not classified	
Cinnamaldehyde (104-55-2)		
LD50 oral rat	2220 mg/kg (Source: NLM_CIP)	
LD50 oral	2200 mg/kg bodyweight	
LD50 dermal rat	> 2000 mg/kg Source: IUCLID	
LD50 dermal rabbit	> 2000 mg/kg	
LD50 dermal	1100 mg/kg bodyweight	
LC50 Inhalation - Rat [ppm]	6888871 ppm Animal: rat, Guideline: other:	
D-Limonene (5989-27-5)		
LD50 oral rat	4400 mg/kg	
LD50 dermal rabbit	> 5000 mg/kg	
Eugenol (97-53-0)		
LD50 oral rat	1930 mg/kg	
LD50 oral	2500 mg/kg bodyweight	
LC50 Inhalation - Rat (Vapours)	> 2580 mg/l	
Cyclododecane (58567-11-6)		
LD50 oral rat	> 5 g/kg	
LD50 dermal rabbit	> 5000 mg/kg (Source: ECHA_API)	
.alphaPinene (80-56-8)		
LD50 oral rat	2100 mg/kg Source: International Uniform ChemicaL Information Database	
LD50 oral	500 mg/kg bodyweight	
LD50 dermal rat	> 5000 mg/kg	
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl- (68039-49-6)		
LD50 oral	3900 mg/kg bodyweight	
.betaPinene (127-91-3)		
LD50 oral rat	4700 mg/kg	
LD50 dermal rabbit	> 5000 mg/kg (Source: CHEMVIEW)	
Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethyl- (13466-78-9)		
LD50 oral rat	4800 mg/kg	
LD50 oral	4800 mg/kg bodyweight	

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Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethyl- (13466-78-9)		
LC50 Inhalation - Rat (Dust/Mist)	1.5 mg/l/4h	
Skin corrosion/irritation	: Not classified	
Serious eye damage/irritation	: Not classified	
Respiratory or skin sensitisation	: Base substance was sensitizing in a Guinea Pig Maximization Test (OECD 406)	
Germ cell mutagenicity	: Not classified	
Carcinogenicity	: Not classified	
Reproductive toxicity	: Not classified	
STOT-single exposure	: Not classified	
STOT-repeated exposure	: Not classified	
Aspiration hazard	: Not classified	

## 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

#### 11.2.2. Other information

No information available.

## **SECTION 12: Ecological information**

## 12.1. Toxicity

Ecology - general : No information available.

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

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

## 12.2. Persistence and degradability

No additional information available

## 12.3. Bioaccumulative potential

No additional information available

## 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

Adverse effects on the environment caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

#### 12.7. Other adverse effects

No additional information available

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## **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control

authorities

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the

product to be released into the environment.

## **SECTION 14: Transport information**

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

## 14.1. UN number or ID number

UN-No. (ADR) : Not regulated for transport UN-No. (IMDG) : Not regulated for transport UN-No. (IATA) : Not regulated for transport UN-No. (ADN) : Not regulated for transport UN-No. (RID) : Not regulated for transport UN-No. (RID)

## 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

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#### Transport by sea (IMDG)

Not applicable

#### Air transport (IATA)

Not applicable

#### Inland waterway transport

Not applicable

#### Rail transport

Not applicable

## 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

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

Contains no substance(s) listed on the REACH Candidate List

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

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

#### 15.1.2. National regulations

All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb. 2019, as amended Feb. 2021, or are otherwise exempt or regulated by other agencies such as FDA or FIFRA

#### Germany

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

WGK remark : Classification based on the components in compliance with Verwaltungs vorschrift

wassergefährdender Stoffe (VwVwS)

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

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

Netherlands

SZW-lijst van kankerverwekkende stoffen : Paraffin waxes and Hydrocarbon waxes,3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-

are listed

SZW-lijst van mutagene stoffen : Paraffin waxes and Hydrocarbon waxes,3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-

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

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

Switzerland

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

## 15.2. Chemical safety assessment

No additional information available

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## **SECTION 16: Other information**

Abbreviations and acronyms		
ACGIH	American Conference of Government Industrial Hygienists	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways	
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road	
CAS-No.	Chemical Abstract Service number	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008	
DNEL	Derived-No Effect Level	
EC50	Median effective concentration	
EC-No.	European Community number	
ED	Endocrine disrupting properties	
EN	European Standard	
IATA	International Air Transport Association	
IMDG	International Maritime Dangerous Goods	
LD50	Median lethal dose	
OEL	Occupational Exposure Limit	
OSHA	Occupational Safety and Health Administration	
PBT	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
SDS	Safety Data Sheet	
STOT	Specific target organ toxicity	
TRGS	Technical Rules for Hazardous Substances	
vPvB	Very Persistent and Very Bioaccumulative	
WGK	Water Hazard Class	

Data sources

: Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Classification for the USA in accordance with 29 CFR 1910.1200 (2012).

Classification for the EU in accordance with 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.

ECHA (European Chemicals Agency).

Training advice : Normal use of this product shall imply use in accordance with the instructions for use and

corresponding product packaging.

Indication of changes:

Revision 1.0: New SDS Created.

Other information : Author: JAD.

SDS Prepared for Illume by: Pace Analytical Services, Inc. Product Regulatory Services Group 1800 Elm Street Minneapolis, MN 55414

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United States 612-656-1175 paceSDS@pacelabs.com

Full text of H- and EUH-statements		
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	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
Flam. Liq. 3	Flammable liquids, Category 3	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
Skin Sens. 1	Skin sensitisation, Category 1	
Skin Sens. 1A	Skin sensitisation, category 1A	
Skin Sens. 1B	Skin sensitisation, category 1B	
H226	Flammable liquid and vapour.	
H302	Harmful if swallowed.	
H304	May be fatal if swallowed and enters airways.	
H315	Causes skin irritation.	
H317	May cause an allergic skin reaction.	
H319	Causes serious eye irritation.	
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.	

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]		
Skin Sens. 1	H317	Concentration limits
Aquatic Chronic 3	H412	Calculation method

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.