# French Pear #EU7696F

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 12/19/2014 Revision date: 4/5/2023 Supersedes version of: 1/8/2019 Version: 1.0

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

### 1.1. Product identifier

| | | |
|---|---|---|
| Product form | : | Mixture |
| Product name | : | French Pear #EU7696F |
| UFI | : | WR9P-D0RH-V004-N7RE |
| Product code | : | EU7696F |
| Type of product | : | Perfumes, fragrances |
| Product group | : | Trade product |

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

#### 1.2.1. Relevant identified uses

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

#### 1.2.2. Uses advised against

No additional information available

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

FRENCH COLOR & FRAGRANCE International GmbH
Mittlerer Weg 35
DE– 79424 Auggen
Germany
T 49-7631-931-8900
SDS@frenchcolor.com - www.frenchcolor.com

### 1.4. Emergency telephone number

| | | |
|---|---|---|
| Emergency number | : | 1-800-255-3924; +01-813-248-0585; China:+400-120-0751; Mexico:+01-800-099-0731; Brazil: +0-800-591-6042; India: +000-800-100-4086 |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

| | |
|---|---|
| Skin corrosion/irritation, Category 2 | H315 |
| Serious eye damage/eye irritation, Category 2 | H319 |
| Skin sensitisation, Category 1 | H317 |
| Hazardous to the aquatic environment – Chronic Hazard, Category 3 | H412 |

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

**Adverse physicochemical, human health and environmental effects**

Suspected of damaging fertility or the unborn child. Toxic to aquatic life. Causes skin irritation. Causes serious eye irritation. Harmful to aquatic life with long lasting effects. May cause an allergic skin reaction.

### 2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07

Signal word (CLP) : Warning

| | | |
|---|---|---|
| Hazard statements (CLP) | : | H315 - Causes skin irritation.<br>H317 - May cause an allergic skin reaction.<br>H319 - Causes serious eye irritation.<br>H412 - Harmful to aquatic life with long lasting effects. |
| Precautionary statements (CLP) | : | P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.<br>P264 - Wash hands, forearms and face thoroughly after handling.<br>P272 - Contaminated work clothing should not be allowed out of the workplace.<br>P273 - Avoid release to the environment.<br>P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.<br>P302+P352 - IF ON SKIN: Wash with plenty of water. |
| Extra phrases | : | For professional users only. |

### 2.3. Other hazards

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

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

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| Verdox | CAS-No.: 88-41-5<br>EC-No.: 201-828-7<br>REACH-no: 01-2119970713-33 | 3.65 – 7.3 | Aquatic Chronic 2, H411 |
| Geranyl acetate | CAS-No.: 105-87-3<br>EC-No.: 203-341-5<br>REACH-no: 01-2119973480-35 | 3.3 – 6.6 | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412 |
| Eugenol | CAS-No.: 97-53-0<br>EC-No.: 202-589-1<br>REACH-no: 01-2119971802-33 | 2.75 – 5.5 | Acute Tox. 4 (Oral), H302<br>Eye Irrit. 2, H319<br>Skin Sens. 1B, H317 |
| Cinnamic aldehyde | CAS-No.: 104-55-2<br>EC-No.: 203-213-9<br>REACH-no: 01-2119935242-45 | 2.75 – 5.5 | Acute Tox. 4 (Dermal), H312<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412 |
| Neryl acetate | CAS-No.: 141-12-8<br>EC-No.: 205-459-2 | 1.45 – 2.9 | Skin Sens. 1B, H317 |
| Citronellyl acetate (mixed Isomers) | CAS-No.: 150-84-5<br>EC-No.: 205-775-0 | 1.2 – 2.4 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Aquatic Chronic 2, H411 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| d-Limonene<br>substance with national workplace exposure limit(s) (DE, ES, FI, SI, NO, CH) | CAS-No.: 5989-27-5<br>EC-No.: 205-341-0<br>EC Index-No.: 601-096-00-2<br>REACH-no: 01-2119493353-35 | 0.9 – 1.8 | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Asp. Tox. 1, H304<br>Aquatic Acute 1, H400<br>Aquatic Chronic 3, H412 |
| Aldehyde C-14 | CAS-No.: 104-67-6<br>EC-No.: 203-225-4<br>REACH-no: 01-2119959333-34 | 0.85 – 1.7 | Aquatic Chronic 3, H412 |
| Ethyl maltol | CAS-No.: 4940-11-8<br>EC-No.: 225-582-5 | 0.83 – 1.66 | Acute Tox. 4 (Oral), H302 |
| Isobutyl acetate<br>substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH) | CAS-No.: 110-19-0<br>EC-No.: 203-745-1<br>EC Index-No.: 607-026-00-7 | 0.75 – 1.5 | Flam. Liq. 2, H225<br>STOT SE 3, H336 |
| Hexyl cinnamic aldehyde | CAS-No.: 101-86-0<br>EC-No.: 202-983-3<br>REACH-no: 01-2119533092-50 | 0.7 – 1.4 | Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 |
| Ethylene brassylate | CAS-No.: 105-95-3<br>EC-No.: 203-347-8<br>REACH-no: 01-2119976314-33 | 0.65 – 1.3 | Aquatic Chronic 2, H411 |
| Heliotropine | CAS-No.: 120-57-0<br>EC-No.: 204-409-7<br>REACH-no: 01-2119983608-21 | 0.5 – 1 | Skin Sens. 1B, H317 |
| Butylated hydroxytoluene (BHT) crystals<br>substance with national workplace exposure limit(s) (AT, BE, BG, DE, DK, ES, FI, FR, GB, GR, HR, IE, PT, SI, CH) | CAS-No.: 128-37-0<br>EC-No.: 204-881-4<br>REACH-no: 01-2119480433-40 | 0.45 – 0.9 | Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 |
| Triplal (Vertocitral) | CAS-No.: 68039-49-6<br>EC-No.: 268-264-1 | 0.2 – 0.4 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412 |
| Isoamyl acetate<br>substance with national workplace exposure limit(s) (AT, BE, BG, CY, DE, DK, EE, ES, FI, FR, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, TR); substance with a Community workplace exposure limit | CAS-No.: 123-92-2<br>EC-No.: 204-662-3<br>EC Index-No.: 607-130-00-2<br>REACH-no: 01-2119548408-32 | 0.2 – 0.4 | Flam. Liq. 3, H226 |
| Diphenyl oxide<br>substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, NO, CH); substance with a Community workplace exposure limit | CAS-No.: 101-84-8<br>EC-No.: 202-981-2<br>REACH-no: 01-2119472545-33 | 0.15 – 0.3 | Eye Irrit. 2, H319<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| Amyl formate<br>substance with national workplace exposure limit(s) (LT, LV) | CAS-No.: 638-49-3<br>EC-No.: 211-340-6<br>EC Index-No.: 607-696-00-0 | 0.1 – 0.2 | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |
| COUMARIN | CAS-No.: 91-64-5<br>EC-No.: 202-086-7<br>REACH-no: 01-2119943756-26 | 0.1 – 0.2 | Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation), H331<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 |

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). IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Wash with plenty of water/…. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). Wash contaminated clothing before reuse. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : If eye irritation persists: Get medical advice/attention. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

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

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

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

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

Symptoms/effects after eye contact : Causes serious eye irritation. Eye irritation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

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

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

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

Fire hazard : Combustible liquid.

Explosion hazard : May form flammable/explosive vapour-air mixture.

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

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

#### 6.1.2. For emergency responders

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

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

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

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

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

See Section 8. Exposure controls and personal protection. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling : Ensure good ventilation of the work station. No open flames. No smoking. 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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace.

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

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

| | | |
|---|---|---|
| Storage conditions | : | Keep in fireproof place. Keep only in the original container in a cool, well ventilated place away from : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container closed when not in use. Store locked up. Store in a well-ventilated place. Keep cool. |
| Incompatible products | : | Strong bases. Strong acids. |
| Incompatible materials | : | Heat sources. Sources of ignition. Direct sunlight. |
| Storage temperature | : | 25 °C |
| Storage area | : | Store in a well-ventilated place. Store away from heat. |
| Special rules on packaging | : | Store in a closed container. |
| Packaging materials | : | Do not store in corrodable metal. |

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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

| 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) | 280 mg/m³ |
| HTP (OEL STEL) [ppm] | 50 ppm |
| **Germany - Occupational Exposure Limits (TRGS 900)** | |
| AGW (OEL TWA) [1] | 28 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] | 5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) |
| Chemical category | Skin notation, Skin sensitization |
| **Slovenia - Occupational Exposure Limits** | |
| OEL TWA | 28 mg/m³ |
| OEL TWA [ppm] | 5 ppm |
| OEL STEL | 112 mg/m³ |
| OEL STEL [ppm] | 20 ppm |
| OEL chemical category | Potential for cutaneous absorption |
| **Spain - Occupational Exposure Limits** | |
| VLA-ED (OEL TWA) [1] | 168 mg/m³ |
| VLA-ED (OEL TWA) [2] | 30 ppm |
| OEL chemical category | Sensitizer, skin - potential for cutaneous absorption |
| **Norway - Occupational Exposure Limits** | |
| Grenseverdi (OEL TWA) [1] | 140 mg/m³ |
| Grenseverdi (OEL TWA) [2] | 25 ppm |
| Korttidsverdi (OEL STEL) | 175 mg/m³ (value calculated) |
| Korttidsverdi (OEL STEL) [ppm] | 37.5 ppm (value calculated) |

| d-Limonene (5989-27-5) | |
|---|---|
| OEL chemical category | Allergenic substance |
| **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 |
| OEL chemical category | Sensitizer |

| Isobutyl acetate (110-19-0) | |
|---|---|
| **Austria - Occupational Exposure Limits** | |
| MAK (OEL TWA) | 241 mg/m³ (Butyl acetates) |
| MAK (OEL TWA) [ppm] | 50 ppm (Butyl acetates) |
| MAK (OEL STEL) | 480 mg/m³ (Butyl acetate) |
| MAK (OEL STEL) [ppm] | 100 ppm (Butyl acetate) |
| **Belgium - Occupational Exposure Limits** | |
| OEL TWA | 238 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 712 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Bulgaria - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Croatia - Occupational Exposure Limits** | |
| GVI (OEL TWA) [1] | 241 mg/m³ |
| GVI (OEL TWA) [2] | 50 ppm |
| KGVI (OEL STEL) | 723 mg/m³ |
| KGVI (OEL STEL) [ppm] | 150 ppm |
| **Cyprus - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Czech Republic - Occupational Exposure Limits** | |
| PEL (OEL TWA) | 241 mg/m³ |
| **Denmark - Occupational Exposure Limits** | |
| OEL TWA [1] | 241 mg/m³ (Butyl acetate, all isomers) |
| OEL TWA [2] | 50 ppm (Butyl acetate, all isomers) |
| OEL STEL | 723 mg/m³ |

| Isobutyl acetate (110-19-0) | |
|---|---|
| OEL STEL [ppm] | 150 ppm |
| **Estonia - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Finland - Occupational Exposure Limits** | |
| HTP (OEL TWA) [1] | 240 mg/m³ (Butyl acetate) |
| HTP (OEL TWA) [2] | 50 ppm (Butyl acetate) |
| HTP (OEL STEL) | 725 mg/m³ (Butyl acetate) |
| HTP (OEL STEL) [ppm] | 150 ppm (Butyl acetate) |
| **France - Occupational Exposure Limits** | |
| VME (OEL TWA) | 241 mg/m³ (restrictive limit) |
| VME (OEL TWA) [ppm] | 50 ppm (restrictive limit) |
| VLE (OEL C/STEL) | 723 mg/m³ (restrictive limit) |
| VLE (OEL C/STEL) [ppm] | 150 ppm (restrictive limit) |
| **Germany - Occupational Exposure Limits (TRGS 900)** | |
| AGW (OEL TWA) [1] | 300 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] | 62 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) |
| **Greece - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Hungary - Occupational Exposure Limits** | |
| AK (OEL TWA) | 241 mg/m³ |
| CK (OEL STEL) | 723 mg/m³ |
| OEL chemical category | Sensitizer |
| **Ireland - Occupational Exposure Limits** | |
| OEL TWA [1] | 241 mg/m³ |
| OEL TWA [2] | 50 ppm |
| OEL STEL | 723 mg/m³ (calculated) |
| OEL STEL [ppm] | 150 ppm (calculated) |
| **Italy - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |

| Isobutyl acetate (110-19-0) | |
|---|---|
| **Latvia - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| **Lithuania - Occupational Exposure Limits** | |
| IPRV (OEL TWA) | 241 mg/m³ |
| IPRV (OEL TWA) [ppm] | 50 ppm |
| TPRV (OEL STEL) | 723 mg/m³ |
| TPRV (OEL STEL) [ppm] | 150 ppm |
| **Luxembourg - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Malta - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Netherlands - Occupational Exposure Limits** | |
| TGG-8u (OEL TWA) | 241 mg/m³ |
| TGG-8u (OEL TWA) [ppm] | 50 ppm |
| TGG-15min (OEL STEL) | 723 mg/m³ |
| TGG-15min (OEL STEL) [ppm] | 150 ppm |
| **Poland - Occupational Exposure Limits** | |
| NDS (OEL TWA) | 240 mg/m³ |
| NDSCh (OEL STEL) | 720 mg/m³ |
| **Portugal - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ (indicative limit value) |
| OEL TWA [ppm] | 50 ppm (indicative limit value) |
| OEL STEL | 723 mg/m³ (indicative limit value) |
| OEL STEL [ppm] | 150 ppm (indicative limit value) |
| **Romania - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Slovakia - Occupational Exposure Limits** | |
| NPHV (OEL TWA) [1] | 480 mg/m³ |
| NPHV (OEL TWA) [2] | 100 ppm |

| Isobutyl acetate (110-19-0) | |
|---|---|
| NPHV (OEL C) | 700 mg/m³ |
| **Slovenia - Occupational Exposure Limits** | |
| OEL TWA | 241 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 723 mg/m³ |
| OEL STEL [ppm] | 150 ppm |
| **Spain - Occupational Exposure Limits** | |
| VLA-ED (OEL TWA) [1] | 241 mg/m³ |
| VLA-ED (OEL TWA) [2] | 50 ppm |
| VLA-EC (OEL STEL) | 723 mg/m³ |
| VLA-EC (OEL STEL) [ppm] | 150 ppm |
| **Sweden - Occupational Exposure Limits** | |
| NGV (OEL TWA) | 241 mg/m³ (Butyl acetates) |
| NGV (OEL TWA) [ppm] | 50 ppm (Butyl acetates) |
| KTV (OEL STEL) | 723 mg/m³ (Butyl acetates) |
| KTV (OEL STEL) [ppm] | 150 ppm (Butyl acetates) |
| **United Kingdom - Occupational Exposure Limits** | |
| WEL TWA (OEL TWA) [1] | 724 mg/m³ |
| WEL TWA (OEL TWA) [2] | 150 ppm |
| WEL STEL (OEL STEL) | 903 mg/m³ |
| WEL STEL (OEL STEL) [ppm] | 187 ppm |
| **Norway - Occupational Exposure Limits** | |
| Grenseverdi (OEL TWA) [1] | 241 mg/m³ |
| Grenseverdi (OEL TWA) [2] | 50 ppm |
| Korttidsverdi (OEL STEL) | 723 mg/m³ (value from the regulation) |
| Korttidsverdi (OEL STEL) [ppm] | 150 ppm (value from the regulation) |
| **Switzerland - Occupational Exposure Limits** | |
| MAK (OEL TWA) [1] | 240 mg/m³ |
| MAK (OEL TWA) [2] | 50 ppm |
| KZGW (OEL STEL) | 720 mg/m³ |
| KZGW (OEL STEL) [ppm] | 150 ppm |
| **USA - ACGIH - Occupational Exposure Limits** | |
| ACGIH OEL TWA [ppm] | 50 ppm (Butyl acetates, all isomers) |
| ACGIH OEL STEL [ppm] | 150 ppm (Butyl acetates, all isomers) |

| Butylated hydroxytoluene (BHT) crystals (128-37-0) | |
|---|---|
| **Austria - Occupational Exposure Limits** | |
| MAK (OEL TWA) | 10 mg/m³ |
| **Belgium - Occupational Exposure Limits** | |
| OEL TWA | 2 mg/m³ (aerosol and vapor) |

| Butylated hydroxytoluene (BHT) crystals (128-37-0) | |
|---|---|
| **Bulgaria - Occupational Exposure Limits** | |
| OEL TWA | 10 mg/m³ |
| OEL STEL | 50 mg/m³ |
| **Croatia - Occupational Exposure Limits** | |
| GVI (OEL TWA) [1] | 10 mg/m³ |
| **Denmark - Occupational Exposure Limits** | |
| OEL TWA [1] | 10 mg/m³ |
| OEL STEL | 20 mg/m³ |
| **Finland - Occupational Exposure Limits** | |
| HTP (OEL TWA) [1] | 10 mg/m³ |
| HTP (OEL STEL) | 20 mg/m³ |
| **France - Occupational Exposure Limits** | |
| VME (OEL TWA) | 10 mg/m³ |
| **Germany - Occupational Exposure Limits (TRGS 900)** | |
| AGW (OEL TWA) [1] | 10 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-inhalable fraction) |
| **Greece - Occupational Exposure Limits** | |
| OEL TWA | 10 mg/m³ |
| **Ireland - Occupational Exposure Limits** | |
| OEL TWA [1] | 2 mg/m³ |
| OEL STEL | 6 mg/m³ (calculated) |
| **Portugal - Occupational Exposure Limits** | |
| OEL TWA | 2 mg/m³ (inhalable fraction; vapor) |
| OEL chemical category | A4 - Not Classifiable as a Human Carcinogen |
| **Slovenia - Occupational Exposure Limits** | |
| OEL TWA | 10 mg/m³ (inhalable fraction) |
| OEL STEL | 40 mg/m³ (inhalable fraction) |
| **Spain - Occupational Exposure Limits** | |
| VLA-ED (OEL TWA) [1] | 10 mg/m³ |
| **United Kingdom - Occupational Exposure Limits** | |
| WEL TWA (OEL TWA) [1] | 10 mg/m³ |
| WEL STEL (OEL STEL) | 30 mg/m³ (calculated) |
| **Switzerland - Occupational Exposure Limits** | |
| MAK (OEL TWA) [1] | 10 mg/m³ (no elevated carcinogenic risk by keeping the MAK-value-aerosol, inhalable dust, vapour) |
| KZGW (OEL STEL) | 40 mg/m³ (aerosol, inhalable dust, vapour) |
| OEL chemical category | Category C1B carcinogen carcinogenic with threshold value |
| **USA - ACGIH - Occupational Exposure Limits** | |
| ACGIH OEL TWA | 2 mg/m³ (inhalable fraction and vapor) |
| ACGIH chemical category | Not Classifiable as a Human Carcinogen |

| Isoamyl acetate (123-92-2) | |
|---|---|
| **EU - Indicative Occupational Exposure Limit (IOEL)** | |
| IOEL TWA | 270 mg/m³ |
| IOEL TWA [ppm] | 50 ppm |
| IOEL STEL | 540 mg/m³ |
| IOEL STEL [ppm] | 100 ppm |
| **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) |
| OEL STEL | 540 mg/m³ |
| OEL STEL [ppm] | 100 ppm |
| **Estonia - Occupational Exposure Limits** | |
| OEL TWA | 270 mg/m³ |
| OEL TWA [ppm] | 50 ppm |
| OEL STEL | 540 mg/m³ |

| Isoamyl acetate (123-92-2) | |
|---|---|
| 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 900)** | |
| 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 |
| **Latvia - Occupational Exposure Limits** | |
| OEL TWA | 270 mg/m³ |

| Isoamyl acetate (123-92-2) | |
|---|---|
| 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 |
| TGG-15min (OEL STEL) [ppm] | 98.1 ppm |
| **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 (Pentyl acetate, all isomers) |
| OEL STEL | 540 mg/m³ (indicative limit value) |
| OEL STEL [ppm] | 100 ppm (indicative limit value) |
| **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 |
| OEL TWA [ppm] | 50 ppm |

| Isoamyl acetate (123-92-2) | |
|---|---|
| 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) |

| Diphenyl oxide (101-84-8) | |
|---|---|
| **EU - Indicative Occupational Exposure Limit (IOEL)** | |
| IOEL TWA | 7 mg/m³ |
| IOEL TWA [ppm] | 1 ppm |
| IOEL STEL | 14 mg/m³ |
| IOEL STEL [ppm] | 2 ppm |
| **Austria - Occupational Exposure Limits** | |
| MAK (OEL TWA) | 7 mg/m³ |
| MAK (OEL TWA) [ppm] | 1 ppm |
| MAK (OEL STEL) | 14 mg/m³ |
| MAK (OEL STEL) [ppm] | 2 ppm |
| **Belgium - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ (vapor) |
| OEL TWA [ppm] | 1 ppm (vapor) |
| OEL STEL | 14 mg/m³ (vapor) |
| OEL STEL [ppm] | 2 ppm (vapor) |
| **Bulgaria - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |

| Diphenyl oxide (101-84-8) | |
|---|---|
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Croatia - Occupational Exposure Limits** | |
| GVI (OEL TWA) [1] | 7 mg/m³ |
| GVI (OEL TWA) [2] | 1 ppm |
| KGVI (OEL STEL) | 14 mg/m³ |
| KGVI (OEL STEL) [ppm] | 2 ppm |
| **Cyprus - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Czech Republic - Occupational Exposure Limits** | |
| PEL (OEL TWA) | 5 mg/m³ |
| **Denmark - Occupational Exposure Limits** | |
| OEL TWA [1] | 7 mg/m³ |
| OEL TWA [2] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Estonia - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Finland - Occupational Exposure Limits** | |
| HTP (OEL TWA) [1] | 7 mg/m³ |
| HTP (OEL TWA) [2] | 1 ppm |
| HTP (OEL STEL) | 14 mg/m³ |
| HTP (OEL STEL) [ppm] | 2 ppm |
| **France - Occupational Exposure Limits** | |
| VME (OEL TWA) | 7 mg/m³ |
| VME (OEL TWA) [ppm] | 1 ppm |
| VLE (OEL C/STEL) | 14 mg/m³ (indicative limit) |
| VLE (OEL C/STEL) [ppm] | 2 ppm (indicative limit) |
| **Germany - Occupational Exposure Limits (TRGS 900)** | |
| AGW (OEL TWA) [1] | 7.1 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-vapor) |
| AGW (OEL TWA) [2] | 1 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-vapor) |

| Diphenyl oxide (101-84-8) | |
|---|---|
| **Gibraltar - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 200 ppm |
| **Greece - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Hungary - Occupational Exposure Limits** | |
| AK (OEL TWA) | 7 mg/m³ |
| CK (OEL STEL) | 14 mg/m³ |
| **Ireland - Occupational Exposure Limits** | |
| OEL TWA [1] | 7 mg/m³ (vapour) |
| OEL TWA [2] | 1 ppm (vapour) |
| OEL STEL | 14 mg/m³ (vapour) |
| OEL STEL [ppm] | 2 ppm (vapour) |
| **Italy - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| **Latvia - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| **Lithuania - Occupational Exposure Limits** | |
| IPRV (OEL TWA) | 7 mg/m³ |
| IPRV (OEL TWA) [ppm] | 1 ppm |
| TPRV (OEL STEL) | 14 mg/m³ |
| TPRV (OEL STEL) [ppm] | 2 ppm |
| **Luxembourg - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Malta - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |

| Diphenyl oxide (101-84-8) | |
|---|---|
| **Netherlands - Occupational Exposure Limits** | |
| TGG-8u (OEL TWA) | 7 mg/m³ |
| TGG-8u (OEL TWA) [ppm] | 1 ppm |
| TGG-15min (OEL STEL) | 14 mg/m³ |
| TGG-15min (OEL STEL) [ppm] | 2 ppm |
| **Poland - Occupational Exposure Limits** | |
| NDS (OEL TWA) | 7 mg/m³ |
| NDSCh (OEL STEL) | 14 mg/m³ |
| **Portugal - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm (vapor) |
| OEL STEL | 14 mg/m³ (indicative limit value) |
| OEL STEL [ppm] | 2 ppm (indicative limit value-vapor) |
| **Romania - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Slovakia - Occupational Exposure Limits** | |
| NPHV (OEL TWA) [1] | 7 mg/m³ |
| NPHV (OEL TWA) [2] | 1 ppm |
| NPHV (OEL C) | 7.1 mg/m³ |
| **Slovenia - Occupational Exposure Limits** | |
| OEL TWA | 7 mg/m³ |
| OEL TWA [ppm] | 1 ppm |
| OEL STEL | 14 mg/m³ |
| OEL STEL [ppm] | 2 ppm |
| **Spain - Occupational Exposure Limits** | |
| VLA-ED (OEL TWA) [1] | 7.1 mg/m³ (vapor) |
| VLA-ED (OEL TWA) [2] | 1 ppm (vapor) |
| VLA-EC (OEL STEL) | 14.2 mg/m³ (vapor) |
| VLA-EC (OEL STEL) [ppm] | 2 ppm (vapor) |
| **Sweden - Occupational Exposure Limits** | |
| NGV (OEL TWA) | 7 mg/m³ |
| NGV (OEL TWA) [ppm] | 1 ppm |
| KTV (OEL STEL) | 14 mg/m³ |
| KTV (OEL STEL) [ppm] | 2 ppm |
| **United Kingdom - Occupational Exposure Limits** | |
| WEL TWA (OEL TWA) [1] | 7 mg/m³ |

| Diphenyl oxide (101-84-8) | |
|---|---|
| WEL TWA (OEL TWA) [2] | 1 ppm |
| WEL STEL (OEL STEL) | 14 mg/m³ |
| WEL STEL (OEL STEL) [ppm] | 2 ppm |
| **Norway - Occupational Exposure Limits** | |
| Grenseverdi (OEL TWA) [1] | 7 mg/m³ |
| Grenseverdi (OEL TWA) [2] | 1 ppm |
| Korttidsverdi (OEL STEL) | 14 mg/m³ (value from the regulation) |
| Korttidsverdi (OEL STEL) [ppm] | 2 ppm (value from the regulation) |
| **Switzerland - Occupational Exposure Limits** | |
| MAK (OEL TWA) [1] | 7 mg/m³ (aerosol, vapour) |
| MAK (OEL TWA) [2] | 1 ppm (aerosol, vapour) |
| KZGW (OEL STEL) | 14 mg/m³ (aerosol, vapour) |
| KZGW (OEL STEL) [ppm] | 2 ppm (aerosol, vapour) |
| OEL chemical category | Category 2 reproductive toxin |
| **USA - ACGIH - Occupational Exposure Limits** | |
| ACGIH OEL TWA [ppm] | 1 ppm (vapor) |
| ACGIH OEL STEL [ppm] | 2 ppm (vapor fraction) |

| Amyl formate (638-49-3) | |
|---|---|
| **Latvia - Occupational Exposure Limits** | |
| OEL TWA | 10 mg/m³ |
| **Lithuania - Occupational Exposure Limits** | |
| TPRV (OEL STEL) | 10 mg/m³ |
| OEL chemical category | Skin notation |

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

**Appropriate engineering controls:**
Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

**Personal protective equipment:**
Avoid all unnecessary exposure.

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

#### 8.2.2.1. Eye and face protection

**Eye protection:**
Chemical goggles or safety glasses. Safety glasses

#### 8.2.2.2. Skin protection

**Skin and body protection:**
Wear suitable protective clothing

**Hand protection:**
Wear protective gloves.

#### 8.2.2.3. Respiratory protection

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

#### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**
Avoid release to the environment.

**Other information:**
Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Colour | : | light yellow. amber. |
| Odour | : | characteristic. characteristic. |
| Odour threshold | : | Not available |
| Melting point | : | Not available |
| Freezing point | : | Not available |
| Boiling point | : | Not available |
| Flammability | : | Combustible liquid,Non flammable. |
| Explosive limits | : | Not available |
| Lower explosion limit | : | Not available |
| Upper explosion limit | : | Not available |
| Flash point | : | 65 °C (closed cup) ASTM D7094 |
| Auto-ignition temperature | : | Not available |
| Decomposition temperature | : | Not available |
| pH | : | Not available |
| Viscosity, kinematic | : | Not available |
| Solubility | : | Not available |
| Partition coefficient n-octanol/water (Log Kow) | : | Not available |
| Vapour pressure | : | Not available |
| Vapour pressure at 50°C | : | Not available |
| Density | : | Not available |
| Relative density | : | ≈ 0.95 |
| Relative vapour density at 20°C | : | Not available |
| Particle characteristics | : | Not applicable |

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Combustible liquid. May form flammable/explosive vapour-air mixture. Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Open flame. Overheating. Direct sunlight. Sparks. Extremely high or low temperatures. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

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

## 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

| Verdox (88-41-5) | |
|---|---|
| LD50 oral rat | 4600 mg/kg (Source: NLM_CIP) |
| LD50 oral | 4600 mg/kg bodyweight |

| Geranyl acetate (105-87-3) | |
|---|---|
| LD50 oral rat | 6330 mg/kg (Source: NLM_CIP) |

| Eugenol (97-53-0) | |
|---|---|
| LD50 oral rat | 1930 mg/kg (Source: NZ_CCID) |
| LD50 oral | 2500 mg/kg bodyweight |

| Cinnamic aldehyde (104-55-2) | |
|---|---|
| LD50 oral rat | 2220 mg/kg (Source: NLM_CIP) |
| LD50 oral | 2200 mg/kg bodyweight |
| LD50 dermal rabbit | 1260 mg/kg (Source: EPA_HPV) |
| LD50 dermal | 1100 mg/kg bodyweight |

| Neryl acetate (141-12-8) | |
|---|---|
| LD50 oral rat | > 5 g/kg (Source: NLM_CIP) |
| LD50 dermal rabbit | > 6 ml/kg (Source: ECHA_API) |
| **Citronellyl acetate (mixed Isomers) (150-84-5)** | |
| LD50 oral rat | 6800 mg/kg (Source: NLM_CIP) |
| LD50 dermal rabbit | > 2000 mg/kg (Source: ECHA_API) |
| **d-Limonene (5989-27-5)** | |
| LD50 oral rat | 4400 mg/kg (Source: CHEMVIEW) |
| LD50 dermal rabbit | > 5 g/kg (Source: CHEMVIEW) |
| **Aldehyde C-14 (104-67-6)** | |
| LD50 oral rat | 18500 mg/kg (Source: NLM_CIP) |
| LD50 dermal rat | > 2000 mg/kg (Source: ECHA_API) |
| **Ethyl maltol (4940-11-8)** | |
| LD50 oral rat | 1150 mg/kg (Source: NLM_CIP) |
| LD50 oral | 1200 mg/kg bodyweight |
| LD50 dermal rabbit | > 5000 mg/kg (Source: ECHA_API) |
| **Isobutyl acetate (110-19-0)** | |
| LD50 oral rat | 15400 mg/kg (Source: JAPAN_GHS) |
| LD50 dermal rabbit | > 17400 mg/kg (Source: NLM_CIP) |
| **Hexyl cinnamic aldehyde (101-86-0)** | |
| LD50 oral rat | 3100 mg/kg (Source: NLM_CIP) |
| LD50 oral | 3100 mg/kg bodyweight |
| LD50 dermal rabbit | > 3000 mg/kg (Source: EPA_HPV) |
| LC50 Inhalation - Rat | > 5 mg/l/4h |
| **Ethylene brassylate (105-95-3)** | |
| LD50 oral rat | > 5000 mg/kg (Source: ECHA) |
| LD50 dermal rabbit | > 5000 mg/kg (Source: ECHA) |
| **Heliotropine (120-57-0)** | |
| LD50 oral rat | 2700 mg/kg (Source: NLM_CIP) |
| LD50 oral | 2700 mg/kg bodyweight |
| LD50 dermal rat | > 5000 mg/kg (Source: ECHA_API) |
| **Butylated hydroxytoluene (BHT) crystals (128-37-0)** | |
| LD50 oral rat | > 2930 mg/kg (Source: EPA_HPV) |
| LD50 dermal rat | > 2000 mg/kg (Source: JAPAN_GHS) |
| **Triplal (Vertocitral) (68039-49-6)** | |
| LD50 oral | 3900 mg/kg bodyweight |
| **Diphenyl oxide (101-84-8)** | |
| LD50 oral rat | 2450 mg/kg (Source: NLM_CIP) |

| Diphenyl oxide (101-84-8) | |
|---|---|
| LD50 oral | 2830 mg/kg bodyweight |
| LD50 dermal rabbit | > 7940 mg/kg (Source: NLM_CIP) |
| LC50 Inhalation - Rat (Dust/Mist) | 1.5 mg/l/4h |

| Amyl formate (638-49-3) | |
|---|---|
| LD50 oral rat | > 5 g/kg (Source: NLM_CIP) |
| LD50 dermal rabbit | > 5000 mg/kg (Source: ECHA_API) |

| COUMARIN (91-64-5) | |
|---|---|
| LD50 oral rat | > 5000 mg/kg (Source: JAPAN_GHS) |
| LD50 oral | 290 mg/kg bodyweight |
| LD50 dermal rat | 293 mg/kg (Source: ECHA_API) |

Skin corrosion/irritation : Causes skin irritation.
Additional information : Based on available data, the classification criteria are not met
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
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 |

| d-Limonene (5989-27-5) | |
|---|---|
| IARC group | 3 - Not classifiable |

| Butylated hydroxytoluene (BHT) crystals (128-37-0) | |
|---|---|
| IARC group | 3 - Not classifiable |

| COUMARIN (91-64-5) | |
|---|---|
| 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

| Isobutyl acetate (110-19-0) | |
|---|---|
| STOT-single exposure | May cause drowsiness or dizziness. |

| Amyl formate (638-49-3) | |
|---|---|
| STOT-single exposure | May cause respiratory irritation. |

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

| Heliotropine (120-57-0) | |
|---|---|
| Viscosity, kinematic | Not applicable |

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Ecology - water : Toxic to aquatic life with long lasting effects.

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

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

| Eugenol (97-53-0) | |
|---|---|
| LC50 - Fish [1] | 13 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static] Source: ECHA) |

| Citronellyl acetate (mixed Isomers) (150-84-5) | |
|---|---|
| LC50 - Fish [1] | 6.1 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static] Source: ECHA) |

| d-Limonene (5989-27-5) | |
|---|---|
| LC50 - Fish [1] | 0.619 – 0.796 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA) |
| LC50 - Fish [2] | 35 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss Source: EPA) |

| Aldehyde C-14 (104-67-6) | |
|---|---|
| LC50 - Fish [1] | 569 mg/l 96 h |
| EC50 - Crustacea [1] | 5.85 mg/l 48 h |
| EC50 - Other aquatic organisms [1] | 5.94 mg/l 72 h |

| Ethyl maltol (4940-11-8) | |
|---|---|
| LC50 - Fish [1] | > 85 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss Source: ECHA) |

| Isobutyl acetate (110-19-0) | |
|---|---|
| LC50 - Fish [1] | 17 mg/l (Exposure time: 96 h - Species: Oryzias latipes Source: ECHA) |

| Heliotropine (120-57-0) | |
|---|---|
| LC50 - Fish [1] | 2.5 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static] Source: ECHA) |

| Butylated hydroxytoluene (BHT) crystals (128-37-0) | |
|---|---|
| EC50 72h - Algae [1] | 6 mg/l (Species: Pseudokirchneriella subcapitata) |
| EC50 72h - Algae [2] | > 0.42 mg/l (Species: Desmodesmus subspicatus) |

### 12.2. Persistence and degradability

| French Pear #EU7696F | |
|---|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. Not established. |

## 12.3. Bioaccumulative potential

| French Pear #EU7696F | |
|---|---|
| Bioaccumulative potential | Not established. |
| **Geranyl acetate (105-87-3)** | |
| Partition coefficient n-octanol/water (Log Pow) | 4.04 |
| **Eugenol (97-53-0)** | |
| Partition coefficient n-octanol/water (Log Pow) | 1.83 (at 30 °C (at pH 5.5) |
| **Cinnamic aldehyde (104-55-2)** | |
| Partition coefficient n-octanol/water (Log Pow) | 2.1065 (at 25 °C) |
| **Neryl acetate (141-12-8)** | |
| Partition coefficient n-octanol/water (Log Pow) | 3.98 (at 37 °C (at pH 7.2) |
| **Citronellyl acetate (mixed Isomers) (150-84-5)** | |
| Partition coefficient n-octanol/water (Log Pow) | 4.9 (at 25 °C (at pH 4.23) |
| **d-Limonene (5989-27-5)** | |
| Partition coefficient n-octanol/water (Log Pow) | 4.38 (at 37 °C (at pH 7.2) |
| **Aldehyde C-14 (104-67-6)** | |
| Partition coefficient n-octanol/water (Log Pow) | 3.6 (at 25 °C) |
| **Ethyl maltol (4940-11-8)** | |
| Partition coefficient n-octanol/water (Log Pow) | 2.9 (at 25 °C) |
| **Isobutyl acetate (110-19-0)** | |
| BCF - Fish [1] | (no significant bioconcentration) |
| Partition coefficient n-octanol/water (Log Pow) | 2.3 (at 25 °C (at pH 7) |
| **Ethylene brassylate (105-95-3)** | |
| Partition coefficient n-octanol/water (Log Pow) | 4.3 (at 25 °C (at pH 6.4-7) |
| **Heliotropine (120-57-0)** | |
| Partition coefficient n-octanol/water (Log Pow) | 1.2 (at 35 °C) |
| **Butylated hydroxytoluene (BHT) crystals (128-37-0)** | |
| BCF - Fish [1] | 230 – 2500 |
| Partition coefficient n-octanol/water (Log Pow) | 5.1 |
| **Isoamyl acetate (123-92-2)** | |
| Partition coefficient n-octanol/water (Log Pow) | 2.7 (at 35 °C) |
| **Diphenyl oxide (101-84-8)** | |
| BCF - Fish [1] | (470 dimensionless) |
| Partition coefficient n-octanol/water (Log Pow) | 4.21 (at 25 °C) |
| **Amyl formate (638-49-3)** | |
| Partition coefficient n-octanol/water (Log Pow) | 2.786 (at 25 °C) |

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with local/national laws and regulations.
Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

HP Code : HP3 - "Flammable:"
– flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C;
– flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air;
– flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction;
– flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa;
– water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities;
– other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste.
HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

## SECTION 14: Transport information

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

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| **14.1. UN number or ID number** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| **14.2. UN proper shipping name** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| **14.3. Transport hazard class(es)** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| **14.4. Packing group** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| **14.5. Environmental hazards** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| No supplementary information available | | | | |

### 14.6. Special precautions for user

**Overland transport**
Not regulated

**Transport by sea**
Not regulated

**Air transport**
Not regulated

**Inland waterway transport**
Not regulated

**Rail transport**
Not regulated

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

**REACH Annex XVII (Restriction List)**

| EU restriction list (REACH Annex XVII) | | |
|---|---|---|
| **Reference code** | **Applicable on** | **Entry title or description** |
| 3(a) | d-Limonene ; Isobutyl acetate ; Isoamyl acetate ; Amyl formate | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F |
| 3(b) | French Pear #EU7696F ; Geranyl acetate ; Eugenol ; Cinnamic aldehyde ; Neryl acetate ; Citronellyl acetate (mixed Isomers) ; d-Limonene ; Isobutyl acetate ; Hexyl cinnamic aldehyde ; Triplal (Vertocitral) ; Amyl formate | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 |
| 3(c) | French Pear #EU7696F ; Verdox ; Geranyl acetate ; Cinnamic aldehyde ; Citronellyl acetate (mixed Isomers) ; d-Limonene ; Aldehyde C-14 ; Hexyl cinnamic aldehyde ; Ethylene brassylate ; Triplal (Vertocitral) | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1 |

| EU restriction list (REACH Annex XVII) | | |
|---|---|---|
| **Reference code** | **Applicable on** | **Entry title or description** |
| 40. | d-Limonene ; Isobutyl acetate ; Isoamyl acetate ; Amyl formate | Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not. |

### REACH Annex XIV (Authorisation List)

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

### REACH Candidate List (SVHC)

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

### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

### Explosives Precursors Regulation (2019/1148)

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

### Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

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

### 15.1.2. National regulations

### Germany

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

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

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

### Netherlands

ABM category : A(2) - toxic for aquatic organisms, may have longterm hazardous effects in aquatic environment

SZW-lijst van kankerverwekkende stoffen : Triplal (Vertocitral) is listed

SZW-lijst van mutagene stoffen : Triplal (Vertocitral) is listed

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

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

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

### Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### Switzerland

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

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

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 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment – Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment – Chronic Hazard, Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment – Chronic Hazard, Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment – Chronic Hazard, Category 3 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| H225 | Highly 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. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| 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. |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| Skin Sens. 1B | Skin sensitisation, category 1B |

| Full text of H- and EUH-statements: | |
|---|---|
| STOT SE 3 | Specific target organ toxicity – Single exposure, Category 3, Narcosis |

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.