

# SAFETY DATA SHEET

# Armor All® Air Freshener 3ct Cards Tranquil Skies

According to Regulation (EC) No 1907/2006, Annex II, as amended.

SECTION 1: Identification of the	he substance/mixture and of the company/undertaking
1.1. Product identifier	
Product name	Armor All® Air Freshener 3ct Cards Tranquil Skies
Product number	18515
1.2. Relevant identified uses of	of the substance or mixture and uses advised against
Identified uses	Hanging air freshener.
Uses advised against	No specific uses advised against are identified.
1.3. Details of the supplier of t	he safety data sheet
Supplier	Armored Auto UK Ltd Unit 16, Rassau Industrial Estate Ebbw Vale Gwent NP23 5SD UK Tel: +44 1495 350234 Fax: + 44 1495 350431 euregulatory@eu.spectrumbrands.com
1.4. Emergency telephone nul	mber
Emergency telephone	+44 1495 350234 Monday - Thursday: 0830 - 1700 Friday: 0830 - 1530
SECTION 2: Hazards identific	ation
2.1. Classification of the subst	ance or mixture
Classification (EC 1272/2008)	
Physical hazards	Not Classified
Health hazards	Skin Sens. 1 - H317
Environmental hazards	Aquatic Chronic 2 - H411
2.2. Label elements	
Hazard pictograms	
Signal word	Warning
Hazard statements	H317 May cause an allergic skin reaction. H411 Toxic to aquatic life with long lasting effects.
Exemptions from CLP Article 17 [Article 29(2)	- 1.5.2.1. Labelling of packages where the contents do not exceed 125 ml] The following are not required for labelling: H411 Toxic to aquatic life with long lasting effects.

Precautionary statements	<ul> <li>P101 If medical advice is needed, have product container or label at hand.</li> <li>P102 Keep out of reach of children.</li> <li>P302+P352 IF ON SKIN: Wash with plenty of water.</li> <li>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</li> <li>P501 Dispose of contents/ container in accordance with national regulations.</li> </ul>
Contains	2-(4-tert-butylbenzyl)propionaldehyde, 2-benzylideneheptanal, 3-p-cumenyl-2- methylpropionaldehyde, d-Limonene
Supplementary precautionary statements	P272 Contaminated work clothing should not be allowed out of the workplace. P362+P364 Take off contaminated clothing and wash it before reuse.

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients		
3.2. Mixtures		
Benzyl benzoate		10 - <25%
CAS number: 120-51-4	EC number: 204-402-9	REACH registration number: 01- 2119976371-33-XXXX
M factor (Acute) = 1		
Classification		
Acute Tox. 4 - H302		
Aquatic Acute 1 - H400		
Aquatic Chronic 2 - H411		
2-(4-tert-butylbenzyl)propionaldehy	/de	1 - <2.5%
CAS number: 80-54-6	EC number: 201-289-8	REACH registration number: 01- 2119485965-18-XXXX
Classification		
Acute Tox. 4 - H302		
Skin Irrit. 2 - H315		
Skin Sens. 1B - H317		
Repr. 2 - H361		
Aquatic Chronic 2 - H411		
cis-2-tert-butylcyclohexyl acetate		1 - <2.5%
CAS number: 20298-69-5	EC number: 243-718-1	REACH registration number: 01- 2119970713-33
Classification		
Aquatic Chronic 2 - H411		

2,6-Dimethyloct-7-en-2-ol		1 - <2.5%
CAS number: 18479-58-8	EC number: 242-362-4	REACH registration number: 01- 2119457274-37-XXXX
<b>Classification</b> Skin Irrit. 2 - H315 Eye Irrit. 2 - H319		
2-benzylideneheptanal		0.5 - <1%
CAS number: 122-40-7	EC number: 204-541-5	
<b>Classification</b> Skin Sens. 1 - H317 Aquatic Chronic 2 - H411		
3-p-cumenyl-2-methylpropionaldehyde		0.5 - <1%
CAS number: 103-95-7	EC number: 203-161-7	
<b>Classification</b> Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Aquatic Chronic 3 - H412		
d-Limonene		0.25 - <0.5%
CAS number: 5989-27-5	EC number: 227-813-5	
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		
Geraniol		0.25 - <0.5%
CAS number: 106-24-1	EC number: 203-377-1	REACH registration number: 01- 2119552430-49-XXXX
<b>Classification</b> Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317		

Pentadecan-15-olide		0.25 - <0.5%
CAS number: 106-02-5	EC number: 203-354-6	REACH registration number: 01- 2119987323-31-XXXX
Classification		
Skin Sens. 1 - H317 Aquatic Chronic 2 - H411		
piperonal		0.25 - <0.5%
CAS number: 120-57-0	EC number: 204-409-7	
Classification Skin Sens. 1B - H317		
Linalool		0.025 - <0.25%
CAS number: 78-70-6	EC number: 201-134-4	
<b>Classification</b> Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1B - H317		
A mixture of: (E)-oxacyclohexade oxacyclohexadec-13-en-2-one; a en-2-one and b) (Z)-oxacyclohexa	) (Z)-oxacyclohexadec-(12)-	0.025 - <0.25%
CAS number: 34902-57-3	EC number: 422-320-3	REACH registration number: 01- 0000016883-62-XXXX
M factor (Acute) = 1	M factor (Chronic) = 1	
<b>Classification</b> Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		
2,6-di-tert-butyl-p-cresol		0.025 - <0.25%
CAS number: 128-37-0	EC number: 204-881-4	REACH registration number: 01- 2119480433-40-XXXX
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification Aquatic Acute 1 - H400		
Aquatic Chronic 1 - H410		

allyl heptanoate		0.025 - <0.25%
CAS number: 142-19-8	EC number: 205-527-1	REACH registration number: 01- 2119488961-23-XXXX
M factor (Acute) = 1		
Classification		
Acute Tox. 3 - H301		
Acute Tox. 3 - H311		
Aquatic Acute 1 - H400 Aquatic Chronic 3 - H412		
pin-2(10)-ene		0.025 - <0.25%
CAS number: 127-91-3	EC number: 204-872-5	
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification		
Flam. Liq. 3 - H226		
Skin Irrit. 2 - H315		
Skin Sens. 1 - H317		
Asp. Tox. 1 - H304		
Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		
2,4-dimethylcyclohex-3-ene-1-carbal	dehyde	0.025 - <0.25%
CAS number: 68039-49-6	EC number: 268-264-1	
Classification		
Skin Irrit. 2 - H315		
Eye Irrit. 2 - H319		
Skin Sens. 1 - H317		
Aquatic Chronic 3 - H412		
1-(2,6,6-trimethyl-3-cyclohexen-1-yl)-	2-buten-1-one	0.025 - <0.25%
CAS number: 57378-68-4	EC number: 260-709-8	
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification		
Acute Tox. 4 - H302		
Skin Irrit. 2 - H315		
Skin Irrit. 2 - H315 Skin Sens. 1 - H317		
Skin Irrit. 2 - H315		

3-(4-tert-butylphenyl)propionaldehyde		0.025 - <0.25%
CAS number: 18127-01-0	EC number: 242-016-2	
Classification		
Skin Irrit. 2 - H315		
Skin Sens. 1B - H317		
Repr. 2 - H361f		
STOT RE 2 - H373		
Aquatic Chronic 3 - H412		
3-(p-methoxyphenyl)-2-methylpropiona	lldehyde	0.025 - <0.25%
CAS number: 5462-06-6	EC number: 226-749-5	
Classification		
Skin Sens. 1 - H317		
		0.0050.05%
allyl hexanoate		0.025 - <0.25%
CAS number: 123-68-2	EC number: 205-527-1	REACH registration number: 01- 2119983573-26-XXXX
M factor (Acute) = 1		
Classification		
Acute Tox. 3 - H301		
Acute Tox. 3 - H311		
Acute Tox. 3 - H331		
Aquatic Acute 1 - H400		
Aquatic Chronic 3 - H412		
ethyl acetate		0.025 - <0.25%
CAS number: 141-78-6	EC number: 205-500-4	
Classification		
Flam. Liq. 2 - H225		
Eye Irrit. 2 - H319		
STOT SE 3 - H336		
The full text for all hazard statements is	displayed in Section 16.	
SECTION 4: First aid measures		

### 4.1. Description of first aid measures

General information	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Inhalation	If throat irritation or coughing persists, proceed as follows. Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms are severe or persist.
Ingestion	Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms are severe or persist.

Skin contact	Brush off loose particles from skin. Wash with plenty of water. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms are severe or persist after washing.
4.2. Most important symptoms	and effects, both acute and delayed
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Prolonged or repeated exposure to vapours in high concentrations may cause the following adverse effects: Drowsiness. Dizziness.
Ingestion	Due to the physical nature of this product, it is unlikely that ingestion will occur. May cause sensitisation or allergic reactions in sensitive individuals. Gastrointestinal symptoms, including upset stomach.
Skin contact	Due to the physical nature of this product, exposure by this route is unlikely. May cause skin sensitisation or allergic reactions in sensitive individuals. Prolonged skin contact may cause redness and irritation. Prolonged contact may cause dryness of the skin.
Eye contact	Due to the physical nature of this product, exposure by this route is unlikely. May cause irritation.
4.3. Indication of any immediat	te medical attention and special treatment needed
Notes for the doctor	Treat symptomatically. Keep affected person under observation.
SECTION 5: Firefighting meas	sures
5.1. Extinguishing media	
Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire- extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
5.2. Special hazards arising fro	om the substance or mixture
Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Toxic gases or vapours.
5.3. Advice for firefighters	
Protective actions during firefighting	Use water to keep fire exposed containers cool and disperse vapours.
Special protective equipment for firefighters	Use protective equipment appropriate for surrounding materials. Wear positive-pressure self- contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.
SECTION 6: Accidental releas	e measures

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

Personal precautionsWear protective clothing as described in Section 8 of this safety data sheet. Eliminate all<br/>ignition sources if safe to do so. Avoid contact with skin and eyes.

### 6.2. Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground.

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

Methods for cleaning up	Wear protective clothing as described in Section 8 of this safety data sheet. No smoking,
	sparks, flames or other sources of ignition near spillage. Eliminate all ignition sources if safe
	to do so. Do not touch or walk into spilled material. Absorb in vermiculite, dry sand or earth
	and place into containers. Use only non-sparking tools. Containers with collected spillage
	must be properly labelled with correct contents and hazard symbol.

#### 6.4. Reference to other sections

Reference to other sections	See Section 11 for additional information on health hazards. For waste disposal, see Section
	13.

SECTION 7: Handling and storage			
7.1. Precautions for safe hand	7.1. Precautions for safe handling		
Usage precautions	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Keep away from heat, sparks and open flame. Provide adequate ventilation.		
Advice on general occupational hygiene	Avoid contact with eyes and prolonged skin contact. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Do not eat, drink or smoke when using this product.		
7.2. Conditions for safe storage	7.2. Conditions for safe storage, including any incompatibilities		
Storage precautions	Store in a cool and well-ventilated place. Keep away from heat, sparks and open flame. Take precautionary measures against static discharges.		
7.3. Specific end use(s)			
Specific end use(s)	The identified uses for this product are detailed in Section 1.2.		
SECTION 8: Exposure contro	Is/Personal protection		
8.1. Control parameters			

#### Occupational exposure limits

#### ethyl acetate

Long-term exposure limit (8-hour TWA): WEL 200 ppm Short-term exposure limit (15-minute): WEL 400 ppm WEL = Workplace Exposure Limit

#### Benzyl benzoate (CAS: 120-51-4)

DNEL

Workers - Inhalation; Long term systemic effects: 5.1 mg/m<sup>3</sup>
Workers - Inhalation; Short term systemic effects: 102 mg/m<sup>3</sup>
Workers - Dermal; Long term systemic effects: 2.6 mg/kg/day
General population - Inhalation; Long term systemic effects: 1.25 mg/m<sup>3</sup>
General population - Inhalation; Long term systemic effects: 25 mg/m<sup>3</sup>
General population - Dermal; Long term systemic effects: 1.3 mg/kg/day
General population - Oral; Long term systemic effects: 0.4 mg/kg/day
General population - Oral; Short term systemic effects: 78 mg/kg/day

PNEC	Fresh water; 0.017 mg/l marine water; 0.002 mg/l STP; 100 mg/l Sediment (Freshwater); 10.66 mg/kg Sediment (Marinewater); 1.07 mg/kg Soil; 2.12 mg/kg
	2-(4-tert-butylbenzyl)propionaldehyde (CAS: 80-54-6)
PNEC	Fresh water; 0.004 mg/l Fresh water, Intermittent release; 0.024 mg/l marine water; 0 mg/l STP; 10 mg/l Sediment (Freshwater); 0.528 mg/kg Sediment (Marinewater); 0.053 mg/kg Soil; 0.103 mg/kg
	cis-2-tert-butylcyclohexyl acetate (CAS: 20298-69-5)
PNEC	Fresh water; 0.011 mg/l Fresh water, Intermittent release; 0.017 mg/l marine water; 0.001 mg/l STP; 10 mg/l Sediment (Freshwater); 1.5 mg/kg Sediment (Marinewater); 0.15 mg/kg Soil; 0.293 mg/kg
	2,6-Dimethyloct-7-en-2-ol (CAS: 18479-58-8)
DNEL	Workers - Inhalation; Long term systemic effects: 73.5 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 20.8 mg/kg/day General population - Inhalation; Long term systemic effects: 21.7 mg/m <sup>3</sup> General population - Dermal; Long term systemic effects: 12.5 mg/kg/day General population - Oral; Long term systemic effects: 12.5 mg/kg/day
PNEC	Fresh water; 0.0278 mg/l marine water; 0.00278 mg/l STP; 10 mg/l Sediment (Freshwater); 0.594 mg/kg Sediment (Marinewater); 0.059 mg/kg Soil; 0.103 mg/kg Oral; 111 mg/kg
	benzyl acetate (CAS: 140-11-4)
DNEL	Workers - Inhalation; Long term systemic effects: 9 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 2.5 mg/kg/day General population - Inhalation; Long term systemic effects: 2.2 mg/m <sup>3</sup> General population - Dermal; Long term systemic effects: 1.3 mg/kg/day General population - Oral; Long term systemic effects: 1.3 mg/kg/day

PNEC	Fresh water; 0.018 mg/l marine water; 0.002 mg/l STP; 8.55 mg/l Sediment (Freshwater); 0.526 mg/kg Sediment (Marinewater); 0.053 mg/kg Soil; 0.094 mg/kg
	Menthyl acetate (CAS: 89-48-5)
DNEL	Workers - Inhalation; Long term systemic effects: 33.6 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 9.5 mg/kg/day General population - Inhalation; Long term systemic effects: 8.3 mg/m <sup>3</sup> General population - Dermal; Long term systemic effects: 4.8 mg/kg/day General population - Oral; Long term systemic effects: 4.8 mg/kg/day
PNEC	Fresh water; 0.0027 mg/l marine water; 0.00027 mg/l STP; 0.26 mg/l Sediment (Freshwater); 0.434 mg/kg Sediment (Marinewater); 0.043 mg/kg Soil; 0.085 mg/kg Oral; 317 mg/kg
	Geraniol (CAS: 106-24-1)
DNEL	Workers - Inhalation; Long term systemic effects: 161.6 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 12.5 mg/kg/day Workers - Dermal; Long term local effects: 11800 µg/cm <sup>2</sup> General population - Inhalation; Long term systemic effects: 47.8 mg/m <sup>3</sup> General population - Dermal; Long term systemic effects: 7.5 mg/kg/day General population - Dermal; Long term local effects: 11800 µg/cm <sup>2</sup> General population - Oral; Long term systemic effects: 13.75 mg/kg/day
PNEC	Fresh water; 0.011 mg/l Fresh water, Intermittent release; 0.108 mg/l marine water; 0.001 mg/l STP; 0.7 mg/l Sediment (Freshwater); 0.115 mg/kg Sediment (Marinewater); 0.011 mg/kg Soil; 0.017 mg/kg
8.2. Exposure controls	
Protective equipment	



# Appropriate engineering controls

Eye/face protection

Provide adequate ventilation. All handling should only take place in well-ventilated areas. Avoid inhalation of vapours and spray/mists. Use explosion-proof electrical, ventilating and lighting equipment.

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Wear tight-fitting, chemical splash goggles or face shield.

Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Frequent changes are recommended.
Other skin and body protection	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Do not smoke in work area. Wash promptly with soap and water if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking and using the toilet.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked.
Environmental exposure controls	Keep container tightly sealed when not in use.

### SECTION 9: Physical and chemical properties

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

Appearance	Solid.
Colour	Various colours.
Odour	Characteristic.
Odour threshold	Not determined.
рН	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	Not determined.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	Not determined.
Bulk density	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not considered to be explosive.

Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.
9.2. Other information	
Other information	No information required.
SECTION 10: Stability and rea	ictivity
10.1. Reactivity	
Reactivity	There are no known reactivity hazards associated with this product.
10.2. Chemical stability	
Stability	Stable at normal ambient temperatures and when used as recommended.
10.3. Possibility of hazardous	reactions
Possibility of hazardous reactions	Will not polymerise.
10.4. Conditions to avoid	
Conditions to avoid	Keep away from heat, sparks and open flame. Avoid excessive heat for prolonged periods of time.
10.5. Incompatible materials	
Materials to avoid	None known.
10.6. Hazardous decompositio	n products
Hazardous decomposition products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO2). Carbon monoxide (CO). Toxic gases or vapours.
SECTION 11: Toxicological inf	ormation
SECTION 11: Toxicological inf 11.1. Information on toxicologi	
11.1. Information on toxicologi Acute toxicity - oral	cal effects
11.1. Information on toxicologi Acute toxicity - oral Notes (oral LD <sub>50</sub> )	cal effects Based on available data the classification criteria are not met.
11.1. Information on toxicologi Acute toxicity - oral	cal effects
11.1. Information on toxicologi Acute toxicity - oral Notes (oral LD₅o) ATE oral (mg/kg) Acute toxicity - dermal	cal effects Based on available data the classification criteria are not met. 8,124.96
11.1. Information on toxicologiAcute toxicity - oralNotes (oral LD50)ATE oral (mg/kg)Acute toxicity - dermalNotes (dermal LD50)	cal effects Based on available data the classification criteria are not met. 8,124.96 Based on available data the classification criteria are not met.
11.1. Information on toxicologiAcute toxicity - oralNotes (oral LD50)ATE oral (mg/kg)Acute toxicity - dermalNotes (dermal LD50)ATE dermal (mg/kg)	cal effects Based on available data the classification criteria are not met. 8,124.96
11.1. Information on toxicologiAcute toxicity - oralNotes (oral LD50)ATE oral (mg/kg)Acute toxicity - dermalNotes (dermal LD50)	cal effects Based on available data the classification criteria are not met. 8,124.96 Based on available data the classification criteria are not met.
11.1. Information on toxicologiAcute toxicity - oralNotes (oral LD50)ATE oral (mg/kg)Acute toxicity - dermalNotes (dermal LD50)ATE dermal (mg/kg)Acute toxicity - inhalation	cal effects         Based on available data the classification criteria are not met.         8,124.96         Based on available data the classification criteria are not met.         213,424.54
11.1. Information on toxicologiAcute toxicity - oralNotes (oral LD50)ATE oral (mg/kg)Acute toxicity - dermalNotes (dermal LD50)ATE dermal (mg/kg)Acute toxicity - inhalationNotes (inhalation LC50)	cal effects         Based on available data the classification criteria are not met.         8,124.96         Based on available data the classification criteria are not met.         213,424.54         Based on available data the classification criteria are not met.
11.1. Information on toxicologi         Acute toxicity - oral         Notes (oral LD <sub>50</sub> )         ATE oral (mg/kg)         Acute toxicity - dermal         Notes (dermal LD <sub>50</sub> )         ATE dermal (mg/kg)         Acute toxicity - inhalation         Notes (inhalation LC <sub>50</sub> )         ATE inhalation (vapours mg/l)         Skin corrosion/irritation	cal effects         Based on available data the classification criteria are not met.         8,124.96         Based on available data the classification criteria are not met.         213,424.54         Based on available data the classification criteria are not met.         1,580.53
11.1. Information on toxicologi         Acute toxicity - oral         Notes (oral LD50)         ATE oral (mg/kg)         Acute toxicity - dermal         Notes (dermal LD50)         ATE dermal (mg/kg)         Acute toxicity - inhalation         Notes (inhalation LC50)         ATE inhalation (vapours mg/l)         Skin corrosion/irritation         Skin corrosion/irritation         Serious eye damage/irritation	cal effects         Based on available data the classification criteria are not met.         8,124.96         Based on available data the classification criteria are not met.         213,424.54         Based on available data the classification criteria are not met.         1,580.53         Based on available data the classification criteria are not met.

Germ cell mutagenicity			
Genotoxicity - in vitro	Based on available data the classification criteria are not met.		
Genotoxicity - in vivo	Based on available data the classification criteria are not met.		
Carcinogenicity			
Carcinogenicity	Based on available data the classification criteria are not met.		
Reproductive toxicity			
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.		
Specific target organ toxicity -	Specific target organ toxicity - single exposure		
STOT - single exposure	Based on available data the classification criteria are not met.		
Specific target organ toxicity -	repeated exposure		
STOT - repeated exposure	Based on available data the classification criteria are not met.		
Aspiration hazard			
Aspiration hazard	Based on available data the classification criteria are not met.		
Toxicological information on ingredients.			
	Benzyl benzoate		

Acute toxicity - oral	
Acute toxicity oral (LD₅₀ mg/kg)	1,880.0
Species	Rat
ATE oral (mg/kg)	1,880.0
Acute toxicity - dermal	
Notes (dermal LD <sub>50</sub> )	LD₅₀ >2000 mg/kg, Dermal, Rabbit REACH dossier information.
Skin corrosion/irritation	
Animal data	Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: Very slight erythema - barely perceptible (1). Oedema score: No oedema (0). Not irritating. REACH dossier information.
Serious eye damage/irritat	ion
Serious eye damage/irritation	Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information.
Skin sensitisation	
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Not sensitising. REACH dossier information.
Germ cell mutagenicity	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.
Genotoxicity - in vivo	DNA damage and/or repair: Negative. REACH dossier information.
Specific target organ toxici	ty - repeated exposure
STOT - repeated exposure	NOAEL 781 mg/kg/day, Dermal, Rat REACH dossier information.

### 2-(4-tert-butylbenzyl)propionaldehyde

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg)	1,390.0
Species	Rat
Notes (oral LD₅₀)	REACH dossier information.
ATE oral (mg/kg)	1,390.0
Acute toxicity - dermal	
Notes (dermal LD₅₀)	REACH dossier information.
Skin corrosion/irritation	
Animal data	Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Moderate oedema - raised approximately 1 mm (3). REACH dossier information. Irritating.
Serious eye damage/irritati	on
Serious eye damage/irritation	REACH dossier information. Not irritating.
Skin sensitisation	
Skin sensitisation	Skin Sens. 1 - H317
Germ cell mutagenicity	
Genotoxicity - in vitro	Chromosome aberration: Negative. REACH dossier information.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.
Reproductive toxicity	
Reproductive toxicity - fertility	Repr. 2 - H361f Suspected of damaging fertility.
Reproductive toxicity - development	Developmental toxicity: - NOAEL: 4.1 mg/kg/day, Oral, Rat REACH dossier information.
	2,6-Dimethyloct-7-en-2-ol
Acute toxicity - oral	
Acute toxicity oral (LD₅₀ mg/kg)	4,100.0
Species	Rat
Notes (oral LD₅₀)	REACH dossier information. Read-across data.
ATE oral (mg/kg)	4,100.0
Acute toxicity - dermal	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rabbit
Notes (dermal LD₅₀)	REACH dossier information. Read-across data.
ATE dermal (mg/kg)	5,000.0
Skin corrosion/irritation	

Animal data	Dose: 0.5 ml, 4 hours, Rabbit REACH dossier information.
Serious eye damage/irritat	
Serious eye damage/irritation	Moderately irritating. REACH dossier information. Eye Irrit. 2 - H319 Causes serious eye irritation.
Germ cell mutagenicity	
Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information.
Reproductive toxicity	
Reproductive toxicity - development	Developmental toxicity:, Maternal toxicity: - NOAEL: 1000 mg/kg/day, Oral, Rat REACH dossier information.
	2-benzylideneheptanal
Acute toxicity - oral	
Acute toxicity oral (LD₅₀ mg/kg)	3,730.0
Species	Rat
ATE oral (mg/kg)	3,730.0
	3-p-cumenyl-2-methylpropionaldehyde
Acute toxicity - dermal	
Notes (dermal LD₅₀)	LD₅₀ >5000 mg/kg, Dermal, Rat REACH dossier information.
Skin corrosion/irritation	
Animal data	Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: Moderate to severe erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information.
Animal data Serious eye damage/irritat	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information.
	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information.
Serious eye damage/irritat Serious eye	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information.
Serious eye damage/irritat Serious eye damage/irritation	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information.
Serious eye damage/irritat Serious eye damage/irritation Skin sensitisation	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information. <b>ion</b> Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier
Serious eye damage/irritat Serious eye damage/irritation <u>Skin sensitisation</u> Skin sensitisation	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information. <b>ion</b> Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier
Serious eye damage/irritat Serious eye damage/irritation <u>Skin sensitisation</u> Skin sensitisation <u>Germ cell mutagenicity</u>	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information. <b>ion</b> Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.
Serious eye damage/irritat Serious eye damage/irritation Skin sensitisation Skin sensitisation Germ cell mutagenicity Genotoxicity - in vitro	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information. <b>ion</b> Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.
Serious eye damage/irritat Serious eye damage/irritation Skin sensitisation Skin sensitisation Germ cell mutagenicity Genotoxicity - in vitro Reproductive toxicity Reproductive toxicity -	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information. <b>ion</b> Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information. Bacterial reverse mutation test: Negative. REACH dossier information. One-generation study - NOAEL 25 mg/kg/day, Oral, Rat P REACH dossier information.
Serious eye damage/irritat Serious eye damage/irritation Skin sensitisation Skin sensitisation Germ cell mutagenicity Genotoxicity - in vitro Reproductive toxicity Reproductive toxicity - fertility Specific target organ toxicit	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information. <b>ion</b> Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information. Bacterial reverse mutation test: Negative. REACH dossier information. One-generation study - NOAEL 25 mg/kg/day, Oral, Rat P REACH dossier information.
Serious eye damage/irritat Serious eye damage/irritation Skin sensitisation Skin sensitisation Germ cell mutagenicity Genotoxicity - in vitro Reproductive toxicity Reproductive toxicity - fertility Specific target organ toxicit	erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information. ion Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information. Bacterial reverse mutation test: Negative. REACH dossier information. One-generation study - NOAEL 25 mg/kg/day, Oral, Rat P REACH dossier information. ty - repeated exposure
Serious eye damage/irritat Serious eye damage/irritation Skin sensitisation Skin sensitisation Germ cell mutagenicity Genotoxicity - in vitro Reproductive toxicity Reproductive toxicity - fertility Specific target organ toxicit	<ul> <li>erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information.</li> <li>ion Dose: 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information. Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information. Bacterial reverse mutation test: Negative. REACH dossier information. One-generation study - NOAEL 25 mg/kg/day, Oral, Rat P REACH dossier information. ty - repeated exposure NOAEL 300 mg/kg/day, Oral, Rabbit REACH dossier information.</li></ul>
Serious eye damage/irritat Serious eye damage/irritation Skin sensitisation Skin sensitisation Germ cell mutagenicity Genotoxicity - in vitro Reproductive toxicity Reproductive toxicity - fertility Specific target organ toxicit STOT - repeated exposure	<ul> <li>erythema (3). Oedema score: Moderate oedema - raised approximately 1 mm (3). Irritating. REACH dossier information.</li> <li><b>bose:</b> 0.1 ml, 7 days, Rabbit Not irritating. REACH dossier information.</li> <li>Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.</li> <li>Bacterial reverse mutation test: Negative. REACH dossier information.</li> <li>One-generation study - NOAEL 25 mg/kg/day, Oral, Rat P REACH dossier information.</li> <li><b>ty - repeated exposure</b></li> <li>NOAEL 300 mg/kg/day, Oral, Rabbit REACH dossier information.</li> </ul>

Animal data	Irritating to skin. REACH dossier information.	
Serious eye damage/irritation		
Serious eye damage/irritation	Dose: 0.1 ml, 7 days, Rabbit REACH dossier information. Not irritating.	
Skin sensitisation		
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.	
Germ cell mutagenicity		
Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information.	
Genotoxicity - in vivo	DNA damage and/or repair: Negative. REACH dossier information.	
Carcinogenicity		
IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.	
Specific target organ toxic	ity - repeated exposure	
STOT - repeated exposure	• NOAEL 1650 mg/kg/day, Oral, Mouse REACH dossier information.	
Aspiration hazard		
Aspiration hazard	1.003 cSt @ 25°C/77°F REACH dossier information. Read-across data. Asp. Tox. 1 - H304	
	Geraniol	
Acute toxicity - oral		
Acute toxicity oral (LD₅₀ mg/kg)	3,600.0	
Species	Rat	
Notes (oral LD₅₀)	REACH dossier information.	
ATE oral (mg/kg)	3,600.0	
Acute toxicity - dermal		
Notes (dermal LD <sub>50</sub> )	LD₅₀: > 5000 mg/kg, Rabbit REACH dossier information.	
Skin corrosion/irritation		
Animal data	Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Slight oedema - edges of area well defined by definite raising (2). Primary dermal irritation index: 2.92 - 3.67 REACH dossier information. Irritating.	
Serious eye damage/irritation		
Serious eye damage/irritation	Dose: 0.1 ml, 24 hours, Rabbit REACH dossier information. Eye Dam. 1 - H318 Causes serious eye damage.	
Skin sensitisation		
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.	
Germ cell mutagenicity		
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.	
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.	

Carcinogenicity	
Carcinogenicity	NOEL 2000 mg/kg/day, Oral, Rat REACH dossier information. Read-across data.
Reproductive toxicity	
Reproductive toxicity - fertility	Screening - NOAEL 300 mg/kg/day, Dermal, Rat P REACH dossier information.
Reproductive toxicity - development	Maternal toxicity: - NOAEL: 300 mg/kg/day, Dermal, Rat REACH dossier information.
	Pentadecan-15-olide
Acute toxicity - oral	
Notes (oral LD₅₀)	LD₅₀ >2000 mg/kg, Oral, Rat Weight of evidence. REACH dossier information.
Acute toxicity - dermal	
Notes (dermal LD₅₀)	$LD_{50}$ >2000 mg/kg, Dermal, Rat Weight of evidence. REACH dossier information.
Skin corrosion/irritation	
Animal data	Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: No oedema (0). Not irritating. REACH dossier information.
Skin sensitisation	
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. Weight of evidence. REACH dossier information.
Germ cell mutagenicity	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.
Reproductive toxicity	
Reproductive toxicity - fertility	One-generation study - NOAEL ≥1000 mg/kg/day, Oral, Rat P REACH dossier information. Read-across data.
Specific target organ toxici	ty - repeated exposure
STOT - repeated exposure	NOAEL ≥1000 mg/kg/day, Oral, Rat REACH dossier information. Read-across data.
	piperonal
Acute toxicity - dermal	
Notes (dermal LD <sub>50</sub> )	LD₅₀ : >5000 mg/kg, Dermal, Rat
Serious eye damage/irritat	ion
Serious eye damage/irritation	Rabbit Not irritating.
Skin sensitisation	
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.
Germ cell mutagenicity	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative.
Carcinogenicity	
Carcinogenicity	Dose level: 0.1 - 0.5 %, Oral, Rat No evidence of carcinogenicity in animal studies.

Reproductive toxicity Reproductive toxicity - development	Developmental toxicity: - NOAEL: > 250 mg/kg/day, Oral, Rat
·	allyl heptanoate
Acute toxicity - oral	
Acute toxicity oral (LD₅₀ mg/kg)	218.0
Species	Rat
Notes (oral LD₅₀)	Acute Tox. 4 - H302 Harmful if swallowed. cATpE: Converted Acute Toxicity Point Estimate.
ATE oral (mg/kg)	218.0
Acute toxicity - dermal	
Acute toxicity dermal (LD₅ mg/kg)	810.0
Species	Rabbit
Notes (dermal LD₅₀)	REACH dossier information.
ATE dermal (mg/kg)	810.0
Skin corrosion/irritation	
Animal data	Skin Irrit. 2 - H315 Causes skin irritation.
Serious eye damage/irritati	on
Serious eye damage/irritation	Dose: 0.1 ml, 1 hour, Rabbit Eye Irrit. 2 - H319 Causes serious eye irritation. REACH dossier information. Not irritating.
Skin sensitisation	
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information.
Germ cell mutagenicity	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.
Reproductive toxicity	
Reproductive toxicity - fertility	Screening - NOEL 30 mg/kg/day, Oral, Rat P REACH dossier information.
Reproductive toxicity - development	Developmental toxicity: - NOAEL: 10 mg/kg/day, Oral, Rat REACH dossier information. Read-across data.
	pin-2(10)-ene
Skin corrosion/irritation	
Human skin model test	Dose: 10 $\mu$ l, 15 ± 0.5 minutes, Human Cell Viability (38.5 ± 3.5%) 15 minutes REACH dossier information. Irritating.
Serious eye damage/irritati	on
Serious eye damage/irritation	REACH dossier information. Not irritating.

Skin sensitisation		
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information.	
Aspiration hazard		
Aspiration hazard	1.4 mPa s @ $40^{\circ}$ C REACH dossier information. Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways.	
	2,4-dimethylcyclohex-3-ene-1-carbaldehyde	
Skin corrosion/irritation		
Animal data	Skin Irrit. 2 - H315 Causes skin irritation.	
Serious eye damage/irritati	on	
Serious eye damage/irritation	Eye Irrit. 2 - H319 Causes serious eye irritation.	
Skin sensitisation		
Skin sensitisation	Skin Sens. 1 - H317 May cause an allergic skin reaction.	
allyl hexanoate		
Acute toxicity - oral		
Acute toxicity oral (LD₅₀ mg/kg)	280.0	
Species	Guinea pig	
Notes (oral LD₅₀)	REACH dossier information.	
ATE oral (mg/kg)	280.0	
Acute toxicity - dermal		
Acute toxicity dermal (LD₅₀ mg/kg)	820.0	
Species	Rabbit	
Notes (dermal LD₅₀)	REACH dossier information.	
ATE dermal (mg/kg)	820.0	
Acute toxicity - inhalation		
Notes (inhalation $LC_{50}$ )	cATpE: Converted Acute Toxicity Point Estimate. Acute Tox. 3 - H331 Toxic if inhaled.	
ATE inhalation (vapours mg/l)	3.0	
Skin corrosion/irritation		
Human skin model test	Cell Viability (79.8%) 15 minutes REACH dossier information. Not irritating.	
Serious eye damage/irritati	on	
Serious eye damage/irritation	Dose: 0.1 ml, 24 hours, Rabbit REACH dossier information. Not irritating.	
Skin sensitisation		

	Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Read-across data.		
	Germ cell mutagenicity			
	Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information.		
		ethyl acetate		
	Acute toxicity - dermal	- dermal		
	Notes (dermal LD₅₀)	LD₅₀ > 20000 mg/kg, Rabbit REACH dossier information.		
	Serious eye damage/irritation			
	Serious eye damage/irritation	Eye Irrit. 2 - H319 Causes serious eye irritation.		
	Skin sensitisation			
	Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information.		
	Germ cell mutagenicity			
	Genotoxicity - in vitro	Chromosome aberration: Negative. REACH dossier information.		
	Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.		
	Reproductive toxicity			
	Reproductive toxicity - fertility	Two-generation study - NOAEL 20700 mg/kg/day, Oral, Mouse P Read-across data. REACH dossier information.		
	Specific target organ toxicity - repeated exposure			
	STOT - repeated exposure NOAEL 900 mg/kg/day, Oral, Rat REACH dossier information.			
	STOT - repeated exposure	e NOAEL 900 mg/kg/day, Oral, Rat REACH dossier information.		
SECTION <sup>2</sup>	STOT - repeated exposure 12: Ecological information	e NOAEL 900 mg/kg/day, Oral, Rat REACH dossier information.		
SECTION 7	12: Ecological information	e NOAEL 900 mg/kg/day, Oral, Rat REACH dossier information.		
	12: Ecological information	e NOAEL 900 mg/kg/day, Oral, Rat REACH dossier information.		
12.1. Toxic Toxicity	12: Ecological information			
12.1. Toxic Toxicity	12: Ecological information ity Aquatic			
12.1. Toxic Toxicity	12: Ecological information ity Aquatic	Chronic 2 - H411 Toxic to aquatic life with long lasting effects.		
12.1. Toxic Toxicity	12: Ecological information ity Aquatic	Chronic 2 - H411 Toxic to aquatic life with long lasting effects.		
12.1. Toxic Toxicity	12: Ecological information ity Aquatic information on ingredients. <u>Acute aquatic toxicity</u>	Chronic 2 - H411 Toxic to aquatic life with long lasting effects.		
12.1. Toxic Toxicity	12: Ecological information ity Aquatic information on ingredients. <u>Acute aquatic toxicity</u> LE(C)∞	e Chronic 2 - H411 Toxic to aquatic life with long lasting effects. $\underline{Benzyl \ benzoate}$ 0.1 < L(E)C50 $\leq$ 1		
12.1. Toxic Toxicity	12: Ecological information ity Aquatic information on ingredients. <u>Acute aquatic toxicity</u> LE(C)∞ M factor (Acute)	Chronic 2 - H411 Toxic to aquatic life with long lasting effects. $\underline{Benzyl \ benzoate}$ 0.1 < L(E)C50 ≤ 1 1 LC <sub>50</sub> , 96 hours: 2.32 mg/l, Brachydanio rerio (Zebra Fish)		
12.1. Toxic Toxicity	12: Ecological information ity Aquation information on ingredients. <u>Acute aquatic toxicity</u> LE(C)₅₀ M factor (Acute) Acute toxicity - fish Acute toxicity - aquatic	<ul> <li>Chronic 2 - H411 Toxic to aquatic life with long lasting effects.</li> <li>Benzyl benzoate</li> <li>0.1 &lt; L(E)C50 ≤ 1</li> <li>1</li> <li>LC<sub>50</sub>, 96 hours: 2.32 mg/l, Brachydanio rerio (Zebra Fish) REACH dossier information.</li> <li>NOEC, 48 hours: 1.73 mg/l, Daphnia magna EC<sub>50</sub>, 48 hours: 3.09 mg/l, Daphnia magna</li> </ul>		

Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.258 mg/l, Daphnia magna LOEC, 21 days: 0.455 mg/l, Daphnia magna REACH dossier information.	
	2-(4-tert-butylbenzyl)propionaldehyde	
Acute aquatic toxicity		
Acute toxicity - fish	NOEC, 96 hours: 1.28 mg/l, Brachydanio rerio (Zebra Fish) LC₅₀, 96 hours: 2.04 mg/l, Brachydanio rerio (Zebra Fish)	
Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 10.7 mg/l, Daphnia magna REACH dossier information.	
Acute toxicity - aquatic plants	EC₅₀, 72 hours: 29.155 mg/l, Scenedesmus subspicatus REACH dossier information.	
Acute toxicity - microorganisms	EC <sub>10</sub> , 3 hours: > 100 mg/l, Activated sludge REACH dossier information.	
	cis-2-tert-butylcyclohexyl acetate	
Acute aquatic toxicity		
Acute toxicity - fish	LC₅₀, 96 hours: 5.6 mg/l, Brachydanio rerio (Zebra Fish) REACH dossier information.	
Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 17 mg/l, Daphnia magna REACH dossier information.	
Acute toxicity - aquatic plants	EC₅o, 72 hours: 4.2 mg/l, Scenedesmus subspicatus NOEC, 72 hours: 0.57 mg/l, Scenedesmus subspicatus REACH dossier information.	
	benzyl acetate	
Acute aquatic toxicity		
Acute toxicity - fish	$LC_{50}$ , 96 hours: 4 mg/l, Oryzias latipes (Red killifish)	
Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 17 mg/l, Daphnia magna	
Acute toxicity - aquatic plants	EC₅₀, 72 hours: 110 mg/l, Desmodesmus subspicatus	
Chronic aquatic toxicity		
Chronic toxicity - fish early life stage	NOEC, 28 days: 0.92 mg/l, Oryzias latipes (Red killifish)	
	3-p-cumenyl-2-methylpropionaldehyde	
Acute aquatic toxicity		
Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 1.4 mg/l, Daphnia magna REACH dossier information.	
Acute toxicity - aquatic plants	EC <sub>50</sub> , 72 hours: 4.3 mg/l, Pseudokirchneriella subcapitata NOEC, 72 hours: 0.72 mg/l, Pseudokirchneriella subcapitata REACH dossier information.	

### d-Limonene

Acute aquatic toxicity		
LE(C)50	0.1 < L(E)C50 ≤ 1	
M factor (Acute)	1	
Acute toxicity - fish	LC₅₀, 96 hours: 0.720 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.	
Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 0.36 mg/l, Daphnia magna REACH dossier information.	
Acute toxicity - aquatic plants	EC₅₀, 72 hours: 150 mg/l, Desmodesmus subspicatus REACH dossier information. Read-across data.	
Acute toxicity - microorganisms	EC₅₀, 3 hours: 209 mg/l, Activated sludge REACH dossier information. Read-across data.	
Chronic aquatic toxicity		
M factor (Chronic)	1	
	Pentadecan-15-olide	
Acute aquatic toxicity		
Acute toxicity - aquatic plants	EC₁₀, 72 hours: 0.421 mg/l, Desmodesmus subspicatus EC₅₀, 72 hours: >0.47 mg/l, Desmodesmus subspicatus REACH dossier information.	
Chronic aquatic toxicity		
Chronic toxicity - fish early life stage	LOEC, 33 days: 0.11 mg/l, Pimephales promelas (Fat-head Minnow) NOEC, 33 days: 0.027 mg/l, Pimephales promelas (Fat-head Minnow) Read-across data. REACH dossier information.	
Chronic toxicity - aquatic invertebrates	LOEC, 21 days: 0.127 mg/l, Daphnia magna NOEC, 21 days: 0.068 mg/l, Daphnia magna REACH dossier information.	
A mixture of: (E)-oxacycle	ohexadec-12-en-2-one; (E)-oxacyclohexadec-13-en-2-one; a) (Z)-oxacyclohexadec- (12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one	
Acute aquatic toxicity	<u> </u>	
 LE(C) <sub>50</sub>	$0.1 < L(E)C50 \le 1$	
M factor (Acute)	1	
Chronic aquatic toxicity		
M factor (Chronic)	1	
	2,6-di-tert-butyl-p-cresol	
Acute aquatic toxicity		
LE(C)₅₀	$0.1 < L(E)C50 \le 1$	
M factor (Acute)	1	

Acute toxicity - fish	LC₀, 96 hours: ≥ 0.57 mg/l, Brachydanio rerio (Zebra Fish) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC <sub>50</sub> , 24 hours: > 0.7 mg/l, Daphnia magna EC <sub>50</sub> , 48 hours: 0.48 - 0.61 mg/l, Daphnia magna NOEC, 48 hours: 0.15 - 0.23 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC₅₀, 72 hours: > 0.4 mg/l, Desmodesmus subspicatus REACH dossier information.
Acute toxicity - microorganisms	EC₀, 3 hours: 1000 mg/l, Activated sludge EC₅₀, 3 hours: > 10000 mg/l, Activated sludge REACH dossier information.
Chronic aquatic toxicity	
NOEC	0.01 < NOEC ≤ 0.1
M factor (Chronic)	1
Chronic toxicity - aquatic invertebrates	EC₅₀, 21 days: > 0.39 mg/l, Daphnia magna NOEC, 21 days: 0.316 mg/l, Daphnia magna LOEC, 21 days: 1 mg/l, Daphnia magna REACH dossier information.
	allyl heptanoate
Acute aquatic toxicity	
LE(C)50	$0.1 < L(E)C50 \le 1$
M factor (Acute)	1
Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 0.89 mg/l, Daphnia magna EC₀, 48 hours: 0.63 mg/l, Daphnia magna EC₁₀₀, 48 hours: 1.25 mg/l, Daphnia magna REACH dossier information.
	2,4-dimethylcyclohex-3-ene-1-carbaldehyde
Toxicity	Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.
	allyl hexanoate
Acute aquatic toxicity	
LE(C)50	$0.1 < L(E)C50 \le 1$
M factor (Acute)	1
Acute toxicity - fish	$LC_{50}$ , 24 hours: 0.201 mg/l, Brachydanio rerio (Zebra Fish) $LC_{50}$ , 48 hours: 0.117 mg/l, Brachydanio rerio (Zebra Fish) $LC_{50}$ , 72 hours: 0.117 mg/l, Brachydanio rerio (Zebra Fish) $LC_{50}$ , 96 hours: 0.117 mg/l, Brachydanio rerio (Zebra Fish) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 2 mg/l, Daphnia magna REACH dossier information.

Acute toxicity - aquatic	NOEC, 72 hours: 0.158 mg/l, Desmodesmus subspicatus	
plants	EC <sub>50</sub> , 72 hours: > 4.6 mg/l, Desmodesmus subspicatus	
	REACH dossier information.	

### 12.2. Persistence and degradability

Persistence and degradability No data available.

### Ecological information on ingredients.

### Benzyl benzoate

Biodegradation	Water - Degradation 94%: 28 days The substance is readily biodegradable. REACH dossier information.
	2-(4-tert-butylbenzyl)propionaldehyde
Phototransformation	Water - DT₅₀ : 11.66 hours REACH dossier information.
Biodegradation	Water - Degradation (80.7%): 28 days REACH dossier information. The substance is readily biodegradable.
	cis-2-tert-butylcyclohexyl acetate
Biodegradation	Water - Degradation 43%: 28 days Not readily biodegradable. REACH dossier information.
	benzyl acetate
Biodegradation	Water - Degradation 100.9%: 28 days The substance is readily biodegradable.
	3-p-cumenyl-2-methylpropionaldehyde
Biodegradation	Water - Degradation 65.5%: 28 days REACH dossier information.
	d-Limonene
Phototransformation	Water - Half-life : 0.365 hours REACH dossier information. QSAR
Biodegradation	Water - Degradation (80%): 28 days
	REACH dossier information. Read-across data. The substance is readily biodegradable.
	Read-across data.
Biodegradation	Read-across data. The substance is readily biodegradable.

Phototransformation	Water - DT₅₀ : ~ 7 hours REACH dossier information. QSAR
Stability (hydrolysis)	- Half-life : 4 - 8 days @ 20°C REACH dossier information.
Biodegradation	Water - Degradation (4.5%): 28 days REACH dossier information. No biodegradation observed under test conditions.
	allyl heptanoate
Biodegradation	Water - Degradation (15%): 2 days Water - Degradation (78%): 12 days Water - Degradation (81%): 28 days REACH dossier information. The substance is readily biodegradable.
	allyl hexanoate
Stability (hydrolysis)	pH4 - Half-life : 302 hours @ 25°C pH7 - Half-life : 695 hours @ 25°C pH9 - Half-life : 128 hours @ 25°C REACH dossier information.
Biodegradation	Water - Degradation (19%): 2 days Water - Degradation (62%): 7 days Water - Degradation (70%): 28 days REACH dossier information. The substance is readily biodegradable.
12.3. Bioaccumulative potential	
Bioaccumulative potential No data	available on bioaccumulation.
Partition coefficient Not dete	ermined.
Ecological information on ingredients.	
	Benzyl benzoate
Bioaccumulative potential	BCF: 193.4 L/kg, Calculation method. REACH dossier information.
Partition coefficient	log Pow: ~ 3.97 REACH dossier information.
	2-(4-tert-butylbenzyl)propionaldehyde
Bioaccumulative potential	BCF: 274.3 I/kg, Fish REACH dossier information.
Partition coefficient	log Pow: 4.2 REACH dossier information.
	cis-2-tert-butylcyclohexyl acetate
Bioaccumulative potential	BCF: 203, Oncorhynchus mykiss (Rainbow trout) REACH dossier information.
Partition coefficient	log Pow: 4.8 REACH dossier information.
	henzyl acetate

### benzyl acetate

	Bioaccumulative potential	BCF: 8, Calculation method.
	Partition coefficient	log Pow: 1.96
		3-p-cumenyl-2-methylpropionaldehyde
	Partition coefficient	log Pow: 3.4 REACH dossier information.
		d-Limonene
	Bioaccumulative potential	BCF: 1022, REACH dossier information. QSAR
	Partition coefficient	log Pow: 4.38 REACH dossier information.
		Pentadecan-15-olide
	Bioaccumulative potential	BCF: 598.9 L/kg, Calculation method. REACH dossier information.
	Partition coefficient	log Pow: 5.79 REACH dossier information.
		2,6-di-tert-butyl-p-cresol
	Bioaccumulative potential	BCF: 330 - 1800, Cyprinus carpio (Common carp) REACH dossier information.
	Partition coefficient	log Pow: 5.1 REACH dossier information.
		allyl heptanoate
	Bioaccumulative potential	BCF: 193.2 I/kg, Fish REACH dossier information. QSAR
	Partition coefficient	log Pow: 3.97 REACH dossier information.
		allyl hexanoate
	Bioaccumulative potential	BCF: 59.2 I/kg, Fish REACH dossier information. QSAR
	Partition coefficient	log Pow: 3.191 REACH dossier information.
12.4. Mobili	ty in soil	
Mobility		duct is partly soluble in water and may spread in the aquatic environment.
Ecological i	nformation on ingredients.	
		Benzyl benzoate
	Adsorption/desorption coefficient	Water - Log Koc: 3.8 @ 40°C REACH dossier information.
		2-(4-tert-butylbenzyl)propionaldehyde
	Henry's law constant	2.523 Pa m³/mol @ 25°C REACH dossier information. Calculation method.
		cis-2-tert-butylcyclohexyl acetate
	Adsorption/desorption coefficient	Water - Log Koc: 3.12 @ 35°C REACH dossier information.
		hann d acatata

### benzyl acetate

	Adsorption/desorption coefficient	Log Koc: 2.4
		3-p-cumenyl-2-methylpropionaldehyde
	Adsorption/desorption coefficient	Soil - Log Koc: 3.05 @ 35°F REACH dossier information.
		d-Limonene
	Adsorption/desorption coefficient	Water - Koc : 1984 REACH dossier information. QSAR
		Pentadecan-15-olide
	Adsorption/desorption coefficient	Log Koc: 4.65 Read-across data. REACH dossier information.
		allyl heptanoate
	Adsorption/desorption coefficient	- log Koc: 2.986 @ 20°C REACH dossier information. QSAR
12.5. Result	ts of PBT and vPvB assessn	nent
Results of F assessment		duct does not contain any substances classified as PBT or vPvB.
Ecological in	nformation on ingredients.	
		Benzyl benzoate
	Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.
		2-(4-tert-butylbenzyl)propionaldehyde
	Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.
		cis-2-tert-butylcyclohexyl acetate
	Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.
		benzyl acetate
	Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.
		3-p-cumenyl-2-methylpropionaldehyde
	Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.
		d-Limonene

**Results of PBT and vPvB** This substance is not classified as PBT or vPvB according to current EU criteria. assessment

#### Pentadecan-15-olide

**Results of PBT and vPvB** This substance is not classified as PBT or vPvB according to current EU criteria. assessment

#### 2,6-di-tert-butyl-p-cresol

**Results of PBT and vPvB** This substance is not classified as PBT or vPvB according to current EU criteria. assessment

#### allyl heptanoate

**Results of PBT and vPvB** This substance is not classified as PBT or vPvB according to current EU criteria. assessment

#### allyl hexanoate

**Results of PBT and vPvB** This substance is not classified as PBT or vPvB according to current EU criteria. assessment

#### 12.6. Other adverse effects

Other adverse effects Not determined.

#### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

General information

Dispose of waste product or used containers in accordance with local regulations

#### SECTION 14: Transport information

General

The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID). Refer to the Dangerous Goods List for information on any Special Provisions 335 / A158.

#### 14.1. UN number

Not applicable.

#### 14.2. UN proper shipping name

Not applicable.

#### 14.3. Transport hazard class(es)

No transport warning sign required.

#### 14.4. Packing group

Not applicable.

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant No.

#### 14.6. Special precautions for user

Not applicable.

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

### Transport in bulk according to Not applicable. Annex II of MARPOL 73/78 and the IBC Code

### SECTION 15: Regulatory information

National regulations	EH40/2005 Workplace exposure limits.
EU legislation	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 (as amended).
	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18
	December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of
	Chemicals (REACH) (as amended).
	Commission Regulation (EU) No 2015/830 of 28 May 2015.

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other inf	ormation
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Abbreviations and acronyms used in the safety data sheet	<ul> <li>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</li> <li>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</li> <li>IMDG: International Maritime Dangerous Goods.</li> <li>IATA: International Air Transport Association.</li> <li>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</li> <li>ATE: Acute Toxicity Estimate.</li> <li>DNEL: Derived No Effect Level.</li> <li>LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.</li> <li>LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).</li> <li>PBT: Persistent, Bioaccumulative and Toxic substance.</li> <li>vPvB: Very Persistent and Very Bioaccumulative.</li> <li>BCF: Bioconcentration Factor.</li> </ul>
Classification procedures according to Regulation (EC) 1272/2008	Skin Sens. 1 - H317, Aquatic Chronic 2 - H411: Calculation method.
Revision date	01/05/2019
Revision	1
Supersedes date	19/09/2017
SDS number	1088

Hazard statements in full	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.
	H315 Causes skin irritation.
	H317 May cause an allergic skin reaction.
	H318 Causes serious eye damage.
	H319 Causes serious eye irritation.
	H331 Toxic if inhaled.
	H336 May cause drowsiness or dizziness.
	H361 Suspected of damaging fertility or the unborn child.
	H361f Suspected of damaging fertility if swallowed.
	H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
	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.

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