



Kemetyl

Safety data sheet

According to Regulation (EU) No 2015/830

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : SHELL AIRFRESHENER WALK ON THE BEACH
Product code : CRX781, AL53C

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

Application : SU21 Consumer product. PC3 Air care products. Airfreshener.

1.3. Details of the supplier of the safety data sheet

Supplier : Kemetyl Nederland BV
Industrieweg 30
3762 EK Soest, The Netherlands
Telephone : +31-35 7604900
E-mail : msds@kemetyl.com
Website : www.kemetyl.com

1.4. Emergency telephone number

EMERGENCY TELEPHONE NUMBER, for DOCTORS/FIRE BRIGADE/POLICE only:

NL - Telephone : +31-35-6099310

(During office hours only)

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP classification : Skin irritation, category 2. Skin sensitization, category 1. Hazardous to the aquatic environment —
(1272/2008/EC) Chronic category 2.

Human health hazards : Causes skin irritation. May cause an allergic skin reaction.

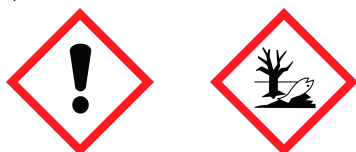
Physical/chemical hazards : Not classified as dangerous according to statutory EC-Directives.

Environmental hazards : Toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements (1272/2008/EC):

Hazard pictograms :



Signal word : Warning

H- and P-phrases :

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P280 gloves	Wear protective gloves.
P273	Avoid release to the environment.
P391	Collect spillage.
P501	Dispose of contents/container to an official chemical waste depot.



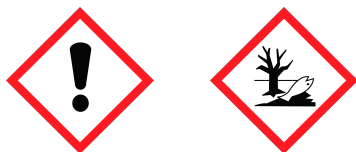
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Labelling of packagings where the contents do not exceed 125 ml and it is technically impossible to list all phrases:

Hazard pictograms :



Signal word : Warning

H- and P-phrases :

H317	May cause an allergic skin reaction.
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P280 gloves	Wear protective gloves.
P273	Avoid release to the environment.
P391	Collect spillage.
P501	Dispose of contents/container to an official chemical waste depot.

Additional labelling (for all packaging sizes)

: Contains: 1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one ; dl-Limonene ; 7-Hydroxycitronellal ; Coumarin ; Alpha-methyl-1,3-benzodioxole-5-propionaldehyde ; Pin-2(10)-ene ; 1-(2,6,6-Trimethyl-3-cyclohexen-1-yl)-2-buten-1-one ; Linalool ; Linalyl acetate ; 3-(p-Ethylphenyl)-2,2-dimethylpropionaldehyde ; 2,2,6-Trimethyl-alpha-propylcyclohexanepropanol ; Pin-2(3)-ene ; Eugenol ; Cinnamaldehyde .

2.3. Other hazards

Other information : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS *

3.2. Mixtures

Product description : Mixture.

Information on hazardous substances:

Substance name	Concentration (w/w) (%)	CAS nr.	EC number	Remark	REACH nr.
1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	5 - < 10	54464-57-2	259-174-3		01-2119489989-04
2,6-Dimethyloct-7-en-2-ol	5 - < 10	18479-58-8	242-362-4		01-2119457274-37
dl-Limonene	1 - < 5	138-86-3	205-341-0		
7-Hydroxycitronellal	1 - < 5	107-75-5	203-518-7		
Coumarin	1 - < 5	91-64-5	202-086-7		01-2119949300-45
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	1 - < 2,5	1205-17-0	214-881-6		01-2120740119-58
Pin-2(10)-ene	0,1 - < 1	127-91-3	204-872-5		
Allyl (cyclohexyloxy)acetate	0,1 - < 1	68901-15-5	272-657-3		
1-(2,6,6-Trimethyl-3-cyclohexen-1-yl)-2-buten-1-one	0,1 - < 1	57378-68-4	260-709-8		
Linalool	0,1 - < 1	78-70-6	201-134-4		01-2119474016-42
Linalyl acetate	0,1 - < 1	115-95-7	204-116-4		01-2119454789-19
3-(p-Ethylphenyl)-2,2-dimethylpropionaldehyde	0,1 - < 1	67634-15-5	266-819-2		
2,2,6-Trimethyl-alpha-propylcyclohexanepropanol	0,1 - < 1	70788-30-6	274-892-7		
Pin-2(3)-ene	0,25 - < 1	80-56-8	201-291-9		
Eugenol	0,1 - < 1	97-53-0	202-589-1		

Product name : Shell Airfreshener walk on the beach

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Cinnamaldehyde	0,01 - < 0,1	104-55-2	203-213-9		
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Substance name	Hazard Class	H-phrases	Pictograms	
1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	Aquatic Chronic 1; Skin Irrit. 2; Skin Sens. 1B	H315; H317; H410	GHS07; GHS09	M (chronic) = 1
2,6-Dimethyloct-7-en-2-ol	Eye Irrit. 2; Skin Irrit. 2	H315; H319	GHS07	
dl-Limonene	Aquatic Acute 1; Aquatic Chronic 1; Asp. Tox. 1; Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1	H226; H304; H315; H317; H400; H410	GHS02; GHS07; GHS09	M (acute) = 1
7-Hydroxycitronellal	Eye Irrit. 2; Skin Sens. 1B	H317; H319	GHS07	
Coumarin	Acute Tox. 4; Aquatic Chronic 3; Skin Sens. 1B	H302; H317; H412	GHS07	
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	Aquatic Chronic 2; Repr. 2; Skin Sens. 1B	H317; H361fd; H411	GHS07; GHS08; GHS09	
Pin-2(10)-ene	Aquatic Acute 1; Aquatic Chronic 1; Asp. Tox. 1; Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1B	H226; H304; H315; H317; H400; H410	GHS02; GHS07; GHS08; GHS09	M (acute) = 1 M (chronic) = 1
Allyl (cyclohexyloxy)acetate	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1	H302; H400; H410	GHS07; GHS09	M (acute) = 1 M (chronic) = 1
1-(2,6,6-Trimethyl-3-cyclohexen-1-yl)-2-buten-1-one	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; Skin Irrit. 2; Skin Sens. 1A	H302; H315; H317; H400; H410	GHS07	M (acute) = 1 M (chronic) = 1
Linalool	Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1B	H315; H317; H319	GHS07	
Linalyl acetate	Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1B	H315; H317; H319	GHS07	
3-(p-Ethylphenyl)-2,2-dimethylpropionaldehyde	Skin Irrit. 2; Skin Sens. 1B; Aquatic Acute 1; Aquatic Chronic 2	H315; H317; H400; H411	GHS07; GHS09	M (acute) = 1
2,2,6-Trimethyl-alpha-propylcyclohexanepropanol	Skin Sens. 1B	H317	GHS07	
Pin-2(3)-ene	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; Asp. Tox. 1; Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1B	H226; H302; H304; H315; H317; H400; H410	GHS02; GHS07; GHS08; GHS09	M (acute) = 1 M (chronic) = 1
Eugenol	Eye Irrit. 2; Skin Sens. 1B	H317; H319	GHS07	
Cinnamaldehyde	Acute Tox. 4; Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1A	H312; H315; H317; H319	GHS07	

Occupational exposure limit(s), if relevant, are listed in section 8.

Reference is made to chapter 16 for full text of each relevant H phrase.

SECTION 4 FIRST-AID MEASURES



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4.1. Description of first aid measures

First aid measures

- Inhalation : Not applicable under normal conditions of use. Consult a doctor if victim feels unwell.
- Skin contact : Take off contaminated clothing. Wash off skin with plenty of water and soap before product dries up. Consult a doctor if irritation occurs.
- Eye contact : Wash out with (lukewarm) water. Remove contact lenses. Consult a doctor if irritation persists.
- Ingestion : Do not induce vomiting. Do rinse the mouth. Give one glass of water. Never give anything by mouth to an unconscious person. Consult a doctor if victim feels unwell.

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

Effects and symptoms

- Inhalation : No specific effects and/or symptoms are known.
- Skin contact : Irritant. May cause redness and irritation, sensitisation. May produce an allergic reaction. May cause dry skin.
- Eye contact : May cause stinging of eyes and redness.
- Ingestion : May cause a feeling of sickness, vomiting and diarrhoea.

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

- Note to physicians : None known.

SECTION 5 FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

- Suitable : Carbon dioxide (CO₂). Foam. Dry chemical. Water fog.
- Not suitable : Water jet.

5.2. Special hazards arising from the substance or mixture

- Special exposure hazards : None known.
- Hazardous thermal decomposition products : Carbon monoxide may be evolved if incomplete combustion occurs.

5.3. Advice for firefighters

- Special protective equipment for fire-fighters : Use adequate respiratory equipment in case of insufficient ventilation.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- Personal precautions : Danger of slipping. Clean up spills immediately. Wear shoes with non-slip soles. Avoid contact with spilled or released material. Vapours are heavier than air. Build up (of gasses) in low areas involves risk of suffocation.

6.2. Environmental precautions

- Environmental precautions : Avoid release of product into sewers, surface water and/or ground water. In case of large spills: contain with dike. Waste product should not be allowed to contaminate soil or water.
- Other information : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

6.3. Methods and material for containment and cleaning up



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Methods for cleaning up : Collect spilled material in containers. Dispose at an authorised waste collection point. Wash away remainder with plenty of water and soap.

6.4. Reference to other sections

Reference to other sections : See also section 8.

SECTION 7 HANDLING AND STORAGE *

7.1. Precautions for safe handling

Handling : Handle in accordance with good occupational hygiene and safety practices in well-ventilated areas. Avoid contact with skin and eyes. Avoid splashing. Wear protective clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep frost-free, in a cool, dry and well-ventilated place (< 35 °C). Keep away from oxidizing agents.

Recommended packaging : Keep only in the original container.

Non recommended packaging : None known.

7.3. Specific end use(s)

Use : Use only as directed.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION *

8.1. Control parameters

Occupational exposure limits : Occupational exposure limits have not been established for this product. Derived no-effect levels (DNEL) have not been established for this product. Predicted no-effect concentrations (PNEC) have not been established for this product.

Workplace exposure limits (mg/m³):

Chemical name	Country	TWA 8 hour (mg/m ³)	STEL 15 min (mg/m ³)	Comments	Source
dL-Limonene		140			MAC: NO
Pin-2(3)-ene		113	-		MAC: BE

Derived no-effect level (DNEL) for workers:

Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	Inhalation				1,76 mg/m ³
	Dermal	0,1011 mg/kg bw			1,73 mg/kg bw/day
2,6-Dimethyloct-7-en-2-ol	Dermal				20,8 mg/kg bw/day
	Inhalation				73,5 mg/m ³
7-Hydroxycitronellal	Inhalation				18 mg/m ³
	Dermal				1,9 mg/kg bw/day
Coumarin	Dermal				0,79 mg/kg bw/day
	Inhalation				6,78 mg/m ³
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	Inhalation				1,2 mg/m ³
	Dermal			0,01 mg/kg bw/day	0,17 mg/kg bw/day

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Pin-2(10)-ene	Inhalation Dermal			0,054 mg/kg bw/day	5,69 mg/m3 0,8 mg/kg bw/day
Allyl (cyclohexyloxy)acetate	Inhalation Dermal				3,16 mg/m3 0,448 mg/kg bw/day
Linalool	Inhalation Dermal		16,5 mg/m3 5 mg/kg bw		2,8 mg/m3 2,5 mg/kg bw/day
Linalyl acetate	Dermal	3 mg/kg bw 0,2362 mg/kg bw		3 mg/kg bw/day 0,2362 mg/kg bw/day	2,5 mg/kg bw/day
Pin-2(3)-ene	Inhalation Inhalation Dermal				2,75 mg/m3 3,8 mg/m3 0,54 mg/kg bw/day
Eugenol	Inhalation Dermal				21,2 mg/m3 6 mg/kg bw/day
Cinnamaldehyde	Inhalation Dermal				2,203 mg/m3 2,5125 mg/kg bw/day

Derived no-effect level (DNEL) for consumers:

Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	Inhalation				0,43 mg/m3
	Dermal	0,0506 mg/kg bw			0,86 mg/kg bw/day
2,6-Dimethyloct-7-en-2-ol	Oral				0,25 mg/kg bw/day
	Dermal				12,5 mg/kg bw/day
7-Hydroxycitronellal	Inhalation				21,7 mg/m3
	Oral				12,5 mg/kg bw/day
Coumarin	Inhalation				5,4 mg/m3
	Dermal				1,1 mg/kg bw/day
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	Oral				0,6 mg/kg bw/day
	Dermal				0,39 mg/kg bw/day
Pin-2(10)-ene	Oral				0,39 mg/kg bw/day
	Inhalation				1,69 mg/m3
Allyl (cyclohexyloxy)acetate	Inhalation				0,29 mg/m3
	Dermal			0,005 mg/kg bw/day	0,083 mg/kg bw/day
Linalool	Oral				0,17 mg/kg bw/day
	Inhalation				1 mg/m3
Linalyl acetate	Dermal			0,027 mg/kg bw/day	0,3 mg/kg bw/day
	Oral				0,3 mg/kg bw/day
Pin-2(3)-ene	Inhalation				0,557 mg/m3
	Dermal				0,16 mg/kg bw/day
Eugenol	Oral				0,16 mg/kg bw/day
	Dermal	1,5 mg/kg bw	2,5 mg/kg bw	15 mg/kg bw/day	1,25 mg/kg bw/day
Cinnamaldehyde	Inhalation		4,1 mg/m3		0,7 mg/m3
	Oral		1,2 mg/kg bw		0,2 mg/kg bw/day
Pin-2(10)-ene	Dermal	0,2362 mg/kg bw		0,2362 mg/kg bw/day	1,25 mg/kg bw/day
	Inhalation				0,68 mg/m3
Allyl (cyclohexyloxy)acetate	Oral				0,2 mg/kg bw/day
	Inhalation				0,67 mg/m3
Linalool	Oral				0,19 mg/kg bw/day
	Dermal				



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Eugenol	Oral Inhalation Dermal				0,19 mg/kg bw/day 5,22 mg/m ³ 3 mg/kg bw/day
Cinnamaldehyde	Oral Inhalation Dermal Oral				3 mg/kg bw/day 0,5435 mg/m ³ 0,625 mg/kg bw/day 2,5 mg/kg bw/day

Predicted no-effect concentration (PNEC):

Chemical name	Route of exposure	Fresh water	Marine water	
2,6-Dimethyloct-7-en-2-ol	Water	0,0278 mg/l	0,0027 mg/l	
	Sediment	0,594 mg/kg	0,0594 mg/kg	
	Intermittent water			0,278 mg/l
	STP			10 mg/l
	Soil			0,103 mg/kg
Coumarin	Oral			111 mg/kg food
	Water	0,019 mg/l	0,0019 mg/l	
	Sediment	0,15 mg/kg	0,015 mg/kg	
	Intermittent water			0,0142 mg/l
	STP			6,4 mg/l
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	Soil			0,018 mg/kg
	Oral			30,7 mg/kg food
	Water	0,005 mg/l	0,001 mg/l	
	Sediment	0,057 mg/kg	0,006 mg/kg	
	STP			10 mg/l
Pin-2(10)-ene	Soil			0,008 mg/kg
	Water	0,001004 mg/l	0,0001 mg/l	
	Sediment	0,337 mg/kg	0,034 mg/kg	
	STP			3,26 mg/l
	Soil			0,067 mg/kg
Allyl (cyclohexyloxy)acetate	Oral			13,1 mg/kg food
	Water	0,00205 mg/l	0,000205 mg/l	
	Sediment	0,0387 mg/kg	0,00387 mg/kg	
	STP			0,3 mg/l
	Soil			0,375 mg/kg
Linalool	Water	0,2 mg/l	0,02 mg/l	
	Sediment	2,22 mg/kg	0,222 mg/kg	
	Intermittent water			2 mg/l
	STP			10 mg/l
	Soil			0,327 mg/kg
Linalyl acetate	Oral			7,8 mg/kg food
	Water	0,011 mg/l	0,001 mg/l	
	Sediment	0,609 mg/kg	0,061 mg/kg	
	Intermittent water			0,11 mg/l
	STP			1 mg/l
Pin-2(3)-ene	Soil			0,115 mg/kg
	Water	0,0006 mg/l	0,00006 mg/l	
	Sediment	0,157 mg/kg	0,0157 mg/kg	
	STP			0,2 mg/l
	Soil			0,0317 mg/kg
Cinnamaldehyde	Oral			8,76 mg/kg food
	Water	1,004 mg/l	0,1004 mg/l	
	Sediment	159,1851 mg/kg	159,1851 mg/kg	
	Intermittent water			1,004 mg/l
	STP			13,119 mg/l



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	Soil		56,0847 mg/kg
	Oral		0,00033 mg/kg food

8.2. Exposure controls

Engineering measures : Comply with standard precautionary measures for working with chemicals. See Directive 2004/37/EG on the protection of workers from the risks related to exposure to carcinogens or mutagens at work.

Hygienic measures : When using do not eat, drink or smoke.

Personal protective equipment:

The efficiency of personal protective equipment depends among other things on temperature and degree of ventilation. Always get professional advice for the particular local situation.



Body protection : Wear appropriate protective clothing, overalls or suit, and similar boots in accordance with EN 365/367 resp. 345. Suitable material: laminated film. Indication of permeation breakthrough time: 4 hours.

Respiratory protection : Take care of sufficient ventilation. Wear suitable respiratory protection in case of large scale exposure. Suitable: gas filter type A (brown), class I or higher on e.g. a facemask in accordance with EN 140.

Hand protection : Wear appropriate safety gloves in accordance with EN 374. Suitable material: laminated film. ± 0,5 mm. Indication of permeation breakthrough time: 4 hours.

Eye protection : Wear appropriate safety glasses when there is danger of possible eye contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES *

9.1. Information on basic physical and chemical properties

Appearance	: Liquid.	Impregnated material.
Colour	: Light yellow.	
Odour	: Perfumed.	
Odour threshold	: Not known.	
pH	: Not applicable.	Waterfree product.
Solubility in water	: Not soluble.	
Partition coefficient (n-octanol/water)	: Not known.	Not measured. Not relevant for mixtures.
Flash point	: > 100 °C	
Flammability (solid, gas)	: Not applicable.	Liquid. See flashpoint.
Auto ignition temperature	: > 225 °C	
Boiling point/boiling range	: > 100 °C	
Melting point/melting range	: < 0 °C	
Explosive properties	: None known.	Does not contain explosives.
Explosion limits (% in air)	: Not known.	Lower explosion limit in air (%): 0,7 (dl-Limonene)
		Upper explosion limit in air (%): 6,1 (dl-Limonene)
Oxidising properties	: Not applicable.	Does not contain oxidizing substances.
Decomposition temperature	: Not applicable.	
Viscosity (20°C)	: Not known.	
Viscosity (40°C)	: Not relevant.	The product contains < 10% substances having an aspiration hazard.
Vapour pressure (20°C)	: Not known.	
Vapour density (20°C)	: > 1	(air = 1)
Relative density (20°C)	: 0,88 g/ml	
Evaporation rate	: Not known.	(n-butyl acetate = 1)



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9.2. Other information

Other information : Not relevant.

SECTION 10 STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity : See sub-sections below.

10.2. Chemical stability

Stability : Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactivity : No other hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid : See section 7.

10.5. Incompatible materials

Materials to avoid : Keep away from oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products : Not known.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

No toxicological research has been carried out on this product.

Inhalation

- Acute toxicity : Calculated LC50: > 10 mg/l. Ingredients of unknown toxicity: 23 %. ATE: > 5 mg/l. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Corrosion/irritation : Not classified - based on available data, the classification criteria are not met.
- Sensitisation : Does not contain substances classified as respiratory sensitiser. Not classified - based on available data, the classification criteria are not met.
- Carcinogenicity : Does not contain carcinogenic substances. Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

Skin contact

- Acute toxicity : Calculated LD50: > 5000 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Corrosion/irritation : Irritant. May cause redness. Prolonged contact may dry out and defat the skin.
- Sensitisation : May cause sensitisation by skin contact. May produce an allergic reaction.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

Eye contact

- Corrosion/irritation : Slight irritation possible. Not classified - based on available data, the classification criteria are not met.



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Ingestion

- Acute toxicity : Calculated LD50: > 5000 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Aspiration : Contains a substance/substances with an aspiration hazard. Not classified - based on available data, the classification criteria are not met.
- Corrosion/irritation : May cause a feeling of sickness, vomiting and diarrhoea.
- Carcinogenicity : Does not contain carcinogenic substances. Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.
- Reprotoxicity : Development: Not classified - Based on available data, the classification criteria are not met. Fertility: Not classified - based on available data, the classification criteria are not met.

Toxicological information:

Chemical name	Property		Method	Test animal
1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	Skin irritation	Non-irritant	----	Rabbit
	Skin sensitisation	6825 ug/cm2	OECD 429	Mouse
	LD50 (oral)	> 5000 mg/kg bw	----	Rat
	LD50 (dermal)	> 5000 mg/kg bw	----	Rat
	Mutagenicity	Not mutagenic	OECD 471	----
2,6-Dimethyloct-7-en-2-ol	NOAEL (development, oral)	480 mg/kg bw/d	OECD 414	Rat
	NOAEL (development) - estimate	1000 mg/kg.d	Read across	Rat
	Mutagenicity	Not mutagenic	OECD 471	
	Genotoxicity - in vitro	Not genotoxic	OECD 476	
	NOAEL (oral) - estimate	500 mg/kg bw/d	Read across	Rat
	LD50 (oral)	3600 mg/kg bw	----	Rat
	Skin sensitisation	Not sensitizing		
	Skin irritation	Slightly irritant	----	Rabbit
	Eye irritation	Moderately irritant	OECD 405	Rabbit
	LD50 (dermal)	> 5000 mg/kg bw	----	Rabbit
dl-Limonene	Skin sensitisation - estimate	Sensitizing	Read across	
	NOAEL (oral) - estimate	1200 mg/kg bw/d	Read across	Rat
	NOAEL (fertility) - estimate	Not reprotoxic	Read across	
	Genotoxicity - estimate	Not genotoxic	Read across	
	Mutagenicity - estimate	Not mutagenic	Read across	
	NOAEL (development) - estimate	591 mg/kg.d	Read across	Rat
	LD50 (dermal) - estimate	> 5000 mg/kg bw	Read across	
	Skin irritation	Moderately irritant	OECD 404	Rabbit
	LD50 (oral)	5300 mg/kg bw	----	Rat
	7-Hydroxycitronellal	Skin irritation	Irritant	
LD50 (dermal)		> 2000 mg/kg bw	----	Rabbit
Skin sensitisation		5612 ug/cm2	OECD 429	Mouse
Skin irritation		850 ug/cm2	OECD 404	
Eye irritation		Irritant		
Skin irritation		Non-irritant		
LD50 (oral)		> 5000 mg/kg bw	----	Rat
NOEL (oral)		250 mg/kg bw/d		



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Coumarin	Genotoxicity - in vivo	Not genotoxic		Mouse	
	NOEL (carcinogenicity) - estimate	Not carcinogenic			
	Mutagenicity	Negative	OECD 471	Salmonella typhimurium	
	Skin sensitisation	> 12500 ug/cm2	OECD 429	Mouse	
	NOAEL (development, oral)	> 115 mg/kg bw/d		Mouse	
	Eye irritation	Non-irritant		Rabbit	
	LD50 (oral)	680 mg/kg bw	-----	Rat	
	NOAEL (oral)	> 138,3 mg/kg bw/d		Mouse	
	Skin irritation	Non-irritant		Rabbit	
	Genotoxicity - in vitro	Not genotoxic	OECD 476		
	Mutagenicity	Negative	OECD 471	Salmonella typhimurium	
	Genotoxicity - in vivo	> 105 mg/kg bw/d	OECD 474	Mouse	
	NOEL (carcinogenicity) - estimate	Not carcinogenic			
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	Skin sensitisation	4100 ug/cm2	OECD 429	-----	
	NOAEL (dermal)	> 300 mg/kg bw/d	-----	Rat	
	NOAEL (development, oral)	> 500 mg/kg bw/d		Rat	
	Skin irritation	Non-irritant			
	LD50 (oral)	3600 mg/kg bw	-----	Rat	
	LD50 (dermal)	> 2000 mg/kg bw	-----	Rabbit	
	Skin irritation	Non-irritant			
	NOAEL (fertility, oral)	100 mg/kg bw/d	OECD 422	Rat	
	Skin sensitisation	Sensitizing	OECD 429	Mouse	
	Eye irritation	Moderately irritant	OECD 405	Rabbit	
Pin-2(10)-ene	NOAEL (development) - estimate	250 mg/kg.d	Read across		
	Skin irritation	Irritant	-----	-----	
	Mutagenicity	Negative	OECD 471	Salmonella typhimurium	
	LD50 (oral)	> 5000 mg/kg bw		Rat	
	LD50 (dermal)	> 5000 mg/kg bw		Rabbit	
	1-(2,6,6-Trimethyl-3-cyclohexen-1-yl)-2-buten-1-one	Genotoxicity - estimate	Not genotoxic	Read across	-----
		NOAEL (development) - estimate	Not teratogenic	Read across	-----
		NOAEL (fertility) - estimate	Not reprotoxic	Read across	-----
		NOEL (carcinogenicity) - estimate	Not carcinogenic	Read across	
		NOAEL (dermal) - estimate	50 mg/kg bw/d	Read across	Rat
NOAEL (oral) - estimate		10 mg/kg bw/d	Read across	Rat	
Mutagenicity		Negative	OECD 471	Salmonella typhimurium	
LD50 (oral)		1821 mg/kg bw		Mouse	
NOAEL (development, oral)		365 mg/kg bw/d	-----	Rat	
Eye irritation		Non-irritant	OECD 405	Rabbit	
Linalool	Skin sensitisation	12650 ug/cm2	OECD 429	Mouse	
	Mutagenicity	Negative	OECD 471	Salmonella typhimurium	
	NOAEL (fertility, oral)	500 mg/kg bw/d		Rat	
	Skin irritation	Irritant	OECD 404	Rabbit	



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Linalyl acetate	NOAEL (dermal)	250 mg/kg bw/d	OECD 411	Rat
	Genotoxicity - in vivo	Not genotoxic	OECD 475	Mouse
	LD50 (dermal)	5610 mg/kg bw	-----	Rabbit
	Skin irritation	Mildly irritant	-----	Human
	LD50 (oral)	2790 mg/kg bw	-----	Rat
	NOAEL (oral)	117 mg/kg bw/d	-----	Rat
		1000 mg/kg bw/d	OECD 414	Rat
	LD50 (oral)	13934 mg/kg bw	-----	Rat
	LC50 (inhalation)	> 2740 mg/m3	-----	Mouse
	Skin irritation	Non-irritant	-----	Human
	Skin irritation	Irritant	OECD 404	Rabbit
	Eye irritation	Irritant	OECD 405	Rabbit
	NOAEL (oral)	160 mg/kg bw/d	OECD 407	Rat
	NOAEL (dermal)	250 mg/kg bw/d	OECD 411	Rat
	Mutagenicity	Not mutagenic	OECD 471	Salmonella typhimurium
	Genotoxicity - in vitro	Not genotoxic	OECD 476	Mouse
	Genotoxicity - in vivo	Not genotoxic	OECD 474	Mouse
	NOAEL (development, oral)	> 1000 mg/kg bw/d	OECD 414	Rat
	3-(p-Ethylphenyl)-2,2-dimethylpropionaldehyde	LC50 (inhalation) - estimate	> 5000 mg/m3	-----
Skin sensitisation		Sensitizing	OECD 429	Mouse
LD50 (dermal)		> 5000 mg/kg bw		Rabbit
LD50 (oral)		> 5000 mg/kg bw		Rat
LC50 (inhalation) - estimate		> 5000 mg/m3		
2,2,6-Trimethyl-alpha-propylcyclohexanepropanol Pin-2(3)-ene	Skin sensitisation - estimate	Sensitizing	Read across	
	LD50 (oral)	> 20000 mg/kg bw		
	Skin sensitisation	Sensitizing	-----	Guinea pig
	Skin irritation	Non-irritant	-----	Human
	Skin irritation	Moderately irritant	-----	Rabbit
	Mutagenicity	Not mutagenic	-----	Salmonella typhimurium
	Eye irritation - estimate	Moderately irritant	Read across	Rabbit
	Genotoxicity - estimate	Not genotoxic	Read across	
	NOAEL (development) - estimate	250 mg/kg.d	Read across	Rat
	NOAEL (inhalation)	170 mg/m3	OECD 413	Rat
Eugenol	NOAEL (oral) - estimate	250 mg/kg bw/d	Read across	
	LD50 (oral)	> 300 mg/kg bw	-----	Rat
	LD50 (dermal)	> 2000 mg/kg bw	OECD 402	Rat
	LD50 (oral)	> 2000 mg/kg bw	OECD 423	Rat
	LC50 (inhalation)	> 2580 mg/m3	OECD 403	Rat
	LC50 (inhalation) - estimate	> 5000 mg/m3		Rat
	LD50 (dermal)	> 2000 mg/kg bw		Rat
	NOEL (carcinogenicity, oral)	300 mg/kg bw/d	-----	Rat
	Skin sensitisation	2703 ug/cm2	OECD 429	Mouse
	NOAEL (oral)	600 mg/kg bw/d	OECD 408	Rat
	Genotoxicity - in vitro	Genotoxic	OECD 476	Mouse
	Genotoxicity - estimate	Not genotoxic		



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Cinnamaldehyde	Genotoxicity - in vivo	Genotoxic	OECD 474	Mouse
	Mutagenicity	Not mutagenic	OECD 471	Salmonella typhimurium
	NOAEL (fertility) - estimate	> 700 mg/kg.d	Read across	Rat
	NOAEL (development, oral)	250 mg/kg bw/d		Rabbit
	Skin irritation	Severely irritant		
	NOAEL (development, oral)	5 mg/kg bw/d	-----	Rat
	LD50 (oral)	2220 mg/kg bw	-----	Rat
	LD50 (dermal)	1260 mg/kg bw	-----	Rabbit
	Mutagenicity	Not mutagenic	-----	Salmonella typhimurium
	NOAEL (oral) - estimate	250 mg/kg bw/d		
	Genotoxicity - in vitro	Genotoxic	-----	
	Genotoxicity - in vivo	Not genotoxic	-----	
	Eye irritation	Moderately irritant	-----	Rabbit
NOEL (carcinogenicity) - estimate	Not carcinogenic			
Skin sensitisation	262 ug/cm2	OECD 429	Mouse	

SECTION 12 ECOLOGICAL INFORMATION

*

12.1. Toxicity

No ecotoxicological research has been carried out on this product.

Ecotoxicity : Toxic to aquatic organisms. Calculated LC50 (fish): 3 mg/l. Calculated EC50 (waterflea): 13 mg/l.
Contains 0 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence – degradability : May cause long-term adverse effects in the aquatic environment.

12.3. Bioaccumulative potential

Bioaccumulative potential : No specific information known.

12.4. Mobility in soil

Mobility : Adsorbs to soil and has low mobility.

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

12.6. Other adverse effects

Other information : Not applicable.

Ecological information:

Chemical name	Property		Method	Test animal
1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	EC50 (waterflea)	1,38 mg/l	OECD 202	-----
	IC50 (algae)	> 2,6 mg/l	OECD 201	-----
	LC50 (fish)	1,3 mg/l	OECD 203	-----
1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	Log P(ow)	5,23		



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1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	BCF	600		
dl-Limonene	IC50 (algae) - estimate	> 1,81 mg/l		
	EC50 (waterflea) - estimate	0,42 mg/l		
	LC50 (fish) - estimate	0,7 mg/l		
	LC50 (fish)	0,2 mg/l	-----	-----
	EC50 (waterflea)	17 mg/l	-----	Daphnia magna
dl-Limonene	Log P(ow)	5,3		
dl-Limonene	BCF	761		
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	EC50 (waterflea)	8,3 mg/l	OECD 202	Daphnia magna
	LC50 (fish)	> 4,6 mg/l	OECD 203	Oncorhynchus mykiss
	IC50 (algae)	28 mg/l	OECD 201	Pseudokirchnerella subcapitata
Alpha-methyl-1,3-benzodioxole-5-propionaldehyde	Log P(ow)	2,4		
Pin-2(10)-ene	LC50 (fish)	0,502 mg/l	OECD 203	Pimephales promelas
	EC50 (waterflea)	1,25 mg/l	OECD 202	Daphnia magna
	Ultimate aerobic biodegradation (%)	76 %	OECD 301 D	
	IC50 (algae)	0,826 mg/l	OECD 201	Pseudokirchnerella subcapitata
Pin-2(10)-ene	Log P(ow)	4,4		
Allyl (cyclohexyloxy)acetate	EC50 (waterflea)	11,3 mg/l	OECD 202	Daphnia magna
	NOEC (waterflea) - chronic	3,2 mg/l.d	OECD 202	Daphnia magna
	Ultimate aerobic biodegradation (%)	24 %	OECD 301 D	
	IC50 (algae)	69,2 mg/l	OECD 201	Pseudokirchnerella subcapitata
Allyl (cyclohexyloxy)acetate	LC50 (fish)	0,205 mg/l	OECD 203	Brachydanio rerio
	Log P(ow)	2,64		
1-(2,6,6-Trimethyl-3-cyclohexen-1-yl)-2-buten-1-one	Log P(ow)	4,2		
Pin-2(3)-ene	Ultimate aerobic biodegradation (%)	62 %	OECD 301 B	
	LC50 (fish)	0,28 mg/l	-----	Pimephales promelas
	EC50 (waterflea)	1,44 mg/l	-----	Daphnia magna
Pin-2(3)-ene	Log P(ow)	4,32		

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Product residues : Do not dispose empty pack with waste produced by households. Containers may be recycled. Treat product residues, impregnated wipes and non-empty pack as hazardous waste.
- Additional warning : None.
- Waste water discharge : Do not dispose into the environment, in drains or in water courses.
- European waste catalogue : Dispose hazardous waste in accordance with Directive 91/689/EEC under acknowledgement of a waste code according to Commission Decision 2000/532/EC to an official chemical waste depot.
- Local legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.



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SECTION 14 TRANSPORT INFORMATION

14.1. UN number

UN nr. : UN 3082

14.2. UN proper shipping name

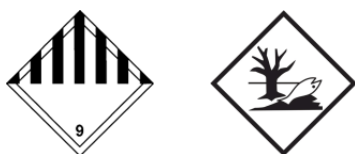
Transport name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one ; dl-Limonene)

Transport name (IMDG, IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one ; dl-Limonene)

14.3/14.4/14.5. Transport hazard class(es)/Packing group/Environmental hazards

ADR/RID/ADN (road/railway/inland waterways)

Class : 9
Classification code : M6
Packaging group : III
Danger label : 9 + the "environmentally hazardous substance" mark.
Tunnel restriction code : C/D



Other information : Not intended for carriage by tank-vessels on inland waterways. This product is not regulated as a dangerous good when transported in sizes of <= 5 L or <= 5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 (Special provisions 375).

IMDG (sea)

Class : 9
Packaging group : III
EmS (fire / spill) : F - A / S - F
Marine pollutant : Yes
Other information : This product is not regulated as a dangerous good when transported in sizes of <= 5 L or <= 5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 (IMDG code 37-14, 2.10.2.7).

IATA (air)

Class : 9

14.6. Special precautions for user

Other information : Country specific variations may apply. It is possible that a "Limited Quantity" exemption applies to the transport of this product.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Marpol : Not intended to be carried in bulk according to International Maritime Organisation (IMO) instruments. Packaged liquids are not considered bulk.

SECTION 15 REGULATORY INFORMATION



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

Community regulations : Regulation (EU) No 2015/830 (REACH), Regulation (EC) No 1272/2008 (CLP) and other regulations.

15.2. Chemical safety assessment

Chemical safety assessment : Not applicable.

SECTION 16 OTHER INFORMATION *

16.1. Other information

The information in this safety data sheet is compiled in compliance with Regulation (EU) No 2015/830 dated 28 May 2015 and accurate to the best of our knowledge and experience at the date of issue specified. It is the user's obligation to use this product safely and to comply with all applicable laws and regulations concerning the use of the product. This safety data sheet complements the technical information sheets but does not replace them and offers no warranty with regard to product properties.

Users are also forewarned for any hazards involved when the product is used for other purposes than those for which it is designed.

Changed or new information with regard to the previous release is indicated with an asterisk (*).

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

ADR	: European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	: Acute Toxicity Estimate
CLP	: Classification, Labeling & Packaging
CMR	: Carcinogenic, Mutagenic or toxic for Reproduction
EEC	: European Economic Community
GHS	: Globally Harmonized System of Classification and Labelling of Chemicals
IATA	: International Air Transport Association
IBC code	: International Bulk Chemical Code
IMDG	: International Maritime Dangerous Goods Code
LD50/LC50	: Lethal Dose/Concentration for 50% of a population
MAC	: Maximum Allowable Concentration
MARPOL	: International Convention for the Prevention of Pollution From Ships
NO(A)EL	: No Observed (Adverse) Effect Level
OECD	: Organisation for Economic Co-operation and Development
PBT	: Persistent, Bioaccumulative and Toxic
PC	: Chemical product category
PT	: Product type
REACH	: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	: Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	: Sewage Treatment Plant
SU	: Sector of Use
TWA/STEL	: Time-Weighted Average/Short Term Exposure Limit
UN	: United Nations
VOC	: Volatile Organic Compounds
vPvB	: Very Persistent and Very Bioaccumulative

Key data used to compile the Safety Data Sheet are from, but not limited to, one or more sources of information e.g. toxicological data from material suppliers, CONCAWE, IFRA, CESIO, Regulation EG 1272/2008, etc.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008:

Skin Irrit. 2	: Calculation method.
Skin Sens. 1/1A/1B	: Calculation method.
Aquatic Chronic 2	: Calculation method.



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Full text of hazard classes mentioned in section 3:

Flam. Liq. 3	: Flammable liquid, category 3.
Acute Tox. 4	: Acute toxicity, category 4.
Skin Irrit. 2	: Skin irritation, category 2.
Eye Irrit. 2	: Eye irritation, category 2.
Skin Sens. 1/1A/1B	: Skin sensitization, category 1/1A/1B.
Asp. Tox. 1	: Aspiration hazard, category 1.
Aquatic Chronic 1	: Hazardous to the aquatic environment — Chronic category 1.
Aquatic Chronic 2	: Hazardous to the aquatic environment — Chronic category 2.
Aquatic Chronic 3	: Hazardous to the aquatic environment — Chronic category 3.
Aquatic Acute 1	: Hazardous to the aquatic environment — Acute category 1.

Full text of H-phrases mentioned in section 3:

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Advice on any training appropriate for workers: none.

Number format : "," used as decimal separator.

End of safety data sheet.

Print date : 2020-07-29