



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Revision date 03/05/2024

Revision Number 1

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

1.1. Product identifier

Product Code(s)	C2040
Safety data sheet number	0000056
Product Name	Astonish Toilet Fresh Eucalyptus
Pure substance/mixture	Mixture
Formula	2040F1V1

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

Recommended use Cleaning toilet bowls and removing limescale.

Uses advised against

1.3. Details of the supplier of the safety data sheet

Manufacturer

The London Oil Refining Company Ltd
Astonish House
Unit 8 Thornbury Ind. Est.
Woodhall Road
Bradford BD3 7AF, UK
Tel: +44 1274 767440 (8am-4pm Mon-Fri)
www.astonish.co.uk

For further information, please contact

E-mail address info@astonish.co.uk

1.4. Emergency telephone number

Emergency Telephone UK - Emergency Telephone: +44 (0) 1274 767440 (8am-4pm Mon-Fri).

Alternatively in UK: Contact NHS 111 Telephone 111 (24 hours a day, 7days a week):
Website 111.nhs.uk or a doctor

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Serious eye damage/eye irritation	Category 2 - (H319)
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2.2. Label elements



Signal word

Warning

Hazard statements

H319 - Causes serious eye irritation

Precautionary statements

P280 - Wear eye protection/ face protection

P337 + P313 - If eye irritation persists: Get medical advice/attention

P101 - If medical advice is needed, have product container or label at hand

P102 - Keep out of reach of children

P103 - Read label before use

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Unknown aquatic toxicity

Contains 1.16609 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)

WATER	50 - <100%	-	-	-	-	-	-
-							
Citric Acid Monohydrate 5949-29-1	1 - <2.5%	201-069-1	-	-	Eye Irrit. 2 (H319)	-	-
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides 68955-55-5	0.5 - <1%	931-341-1	-	-	Aquatic Chronic 2 (H411) Aquatic Acute 1 (H400) Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	-	-
Hydroxyethyl Cellulose 9004-62-0	0.5 - <1%	-	-	-	-	-	-
2,6-dimethyloct-7-en-2-ol 18479-58-8	0.25 - <0.5%	242-362-4	-	-	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	-	-
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides 68424-85-1	0.025 - <0.25%	270-325-2	-	-	Skin Corr. 1B (H314) Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400) Acute Tox. 4 (H302) Eye Dam. 1 (H318)	-	-
α -Hexylcinnamaldehyde 165184-98-5	0.025 - <0.25%	-	-	-	-	-	-
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol 124-76-5	0.025 - <0.25%	204-712-4	-	-	Flam. Sol. 2 (H228) Skin Irrit. 2 (H315)	-	-
cis-2-tert-Butylcyclohexyl acetate 20298-69-5	0.025 - <0.25%	243-718-1	-	-	-	-	-
Cineole 470-82-6	0.025 - <0.25%	207-431-5	-	-	Flam. Liq. 3 (H226) Skin Sens. 1B (H317)	-	-
4-tert-ButylCycloHexanol 98-52-2	0.025 - <0.25%	202-676-4	-	-	Eye Irrit. 2 (H319)	-	-
(+)-Bornan-2-one 76-22-2	0.025 - <0.25%	200-945-0	-	-	Aquatic Chronic 2 (H411) Acute Tox. 4 (H332) STOT SE 2 (H371) Acute Tox. 4 (H302) Flam. Sol. 2 (H228) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	-	-
Hexyl cinnamal 101-86-0	0.025 - <0.25%	202-983-3	-	-	Aquatic Chronic 2 (H411) Aquatic Acute 1 (H400) Skin Sens. 1B (H317)	-	-
Camphor 21368-68-3	0.025 - <0.25%	244-350-4	-	-	-	-	-
Eucalyptus Oil 8000-48-4	0.025 - <0.25%	283-406-2	-	-	Aquatic Chronic 2 (H411) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Sens. 1 (H317) Skin Irrit. 2 (H315)	-	-
Coumarin 91-64-5	0.025 - <0.25%	202-086-7	-	-	Acute Tox. 4 (H302) Skin Sens. 1B (H317)	-	-

Decanal 112-31-2	0.025 - <0.25%	203-957-4	-	Eye Irrit. 2 (H319)	-	-	-
3,3-Dimethyl-8,9-din orboman-2-yl acetate 13851-11-1	0.025 - <0.25%	237-588-5	-	-	-	-	-
2-Methylundecanal 110-41-8	0.025 - <0.25%	203-983-6	-	Aquatic Chronic 1 (H410) Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	-	-	-
2,6-di-tert-butyl-p-cr esol 128-37-0	0.025 - <0.25%	204-881-4	-	Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400)	-	-	-
Sodium Hydroxide 1310-73-2	<0.025%	(011-002-00 -6) 215-185-5	-	Skin Corr. 1A (H314) Met. Corr. 1 (H290)	Eye Irrit. 2 :: 0.5%<=C<2% Skin Corr. 1A :: C>=5% Skin Corr. 1B :: 2%<=C<5% Skin Irrit. 2 :: 0.5%<=C<2%	-	-
Acid Blue No.9 3844-45-9	<0.025%	223-339-8	-	-	-	-	-
(+)-Isomenthone 1196-31-2	<0.025%	214-813-5	-	-	-	-	-
Undecan-2-one 112-12-9	<0.025%	203-937-5	-	Aquatic Chronic 3 (H412) Aquatic Acute 1 (H400)	-	-	-
L-Menthanone 14073-97-3	<0.025%	237-926-1	-	Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	-	-	-
Dodecanal 112-54-9	<0.025%	203-983-6	-	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	-	-	-
I-Menthol 89-78-1	<0.025%	201-939-0	-	Skin Irrit. 2 (H315)	-	-	-
Tartrazine 400% 1934-21-0	<0.025%	217-699-5	-	-	-	-	-
Acetyl cedrene 32388-55-9	<0.025%	251-020-3	-	Aquatic Chronic 1 (H410) Skin Sens. 1B (H317)	-	-	-
alpha-Pinene 80-56-8	<0.025%	201-291-9	-	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	-	-	-
Limonene 7705-14-8	<0.025%	231-732-0	-	Flam. Liq. 3 (H226) Skin Sens. 1 (H317) Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400) Skin Irrit. 2 (H315)	-	-	-
Mentha Piperita Oil 8006-90-4	<0.025%	-	-	-	-	-	-
Alpha-Isomethyl Ionone 127-51-5	<0.025%	204-846-3	-	Aquatic Chronic 2 (H411) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	-	-	-

Amyl salicylate 2050-08-0	<0.025%	218-080-2	-	Aquatic Chronic 1 (H410) Acute Tox. 4 (H302)	-	-	-
p-Mentha-1,4-diene 99-85-4	<0.025%	202-794-6	-	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226)	-	-	-
para-Cymene 99-87-6	<0.025%	202-796-7	-	Aquatic Chronic 2 (H411) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226)	-	-	-
Camphene 79-92-5	<0.025%	201-234-8	-	Flam. Liq. 3 (H226) Aquatic Chronic 1 (H410) Eye Irrit. 2 (H319) Flam. Sol. 2 (H228)	-	-	-
beta-Pinene 127-91-3	<0.025%	204-872-5	-	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	-	-	-
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one 56973-85-4	<0.025%	260-486-7	-	Aquatic Chronic 2 (H411) Skin Sens. 1B (H317)	-	-	-
Pogostemon Cablin Oil 8014-09-3	<0.025%	-	-	-	-	-	-
turpentine, oil 8006-64-2	<0.025%	(650-002-00-6) 232-350-7	-	Aquatic Chronic 2 (H411) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Acute Tox. 4 (H332) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Acute Tox. 4 (H312)	-	-	-
beta-Caryophyllene 87-44-5	<0.025%	201-746-1	-	Asp. Tox. 1 (H304)	-	-	-
Terpineol 8000-41-7	<0.025%	232-268-1	-	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	-	-	-
Linalool 78-70-6	<0.025%	201-134-4	-	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	-	-	-
Alpha-Terpinene 99-86-5	<0.025%	(601-095-00-7) 202-795-1	-	-	-	-	-
alpha-Terpinolene 586-62-9	<0.025%	209-578-0	-	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Sens. 1 (H317) Aquatic Chronic 1 (H410)	-	-	-
Amyl Cinnamal 122-40-7	<0.025%	204-541-5	-	Aquatic Chronic 2 (H411) Skin Sens. 1B (H317)	-	-	-
Geraniol 106-24-1	<0.025%	203-377-1	-	Skin Sens. 1 (H317) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	-	-	-
Carvone 99-49-0	<0.025%	202-759-5	-	Skin Sens. 1B (H317)	-	-	-
benzyl benzoate	<0.025%	(607-085-00)	-	Aquatic Chronic 2	-	-	-

120-51-4		-9) 204-402-9		(H411) Aquatic Acute 1 (H400) Acute Tox. 4 (H302)			
Citral 5392-40-5	<0.025%	(605-019-00 -3) 226-394-6	-	Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	-	-	-

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

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth. Do NOT induce vomiting.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms	May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.
Effects of Exposure	See Section 11 for additional Toxicological Information.

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

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

Chemical name	United Kingdom
(+)-Bornan-2-one 76-22-2	TWA: 2 ppm TWA: 13 mg/m ³ STEL: 3 ppm STEL: 19 mg/m ³
Camphor 21368-68-3	TWA: 2 ppm TWA: 13 mg/m ³ STEL: 3 ppm STEL: 19 mg/m ³
2,6-di-tert-butyl-p-cresol 128-37-0	TWA: 10 mg/m ³ STEL: 30 mg/m ³
Sodium Hydroxide 1310-73-2	STEL: 2 mg/m ³
turpentine, oil 8006-64-2	TWA: 100 ppm TWA: 566 mg/m ³ STEL: 150 ppm STEL: 850 mg/m ³

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides 68955-55-5		11 mg/kg bw/day [4] [6]	6.2 mg/m ³ [4] [6]
2,6-dimethyloct-7-en-2-ol 18479-58-8		20.8 mg/kg bw/day [4] [6]	73.5 mg/m ³ [4] [6]
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides 68424-85-1		5.7 mg/kg bw/day [4] [6]	3.96 mg/m ³ [4] [6]
(+)-Bornan-2-one 76-22-2		10 mg/kg bw/day [4] [6]	17.6316 mg/m ³ [4] [6]
Cineole 470-82-6		2 mg/kg bw/day [4] [6]	7.05 mg/m ³ [4] [6]
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol 124-76-5		0.05895 mg/kg bw/day [4] [6]	0.207876316 mg/m ³ [4] [6]
α -Hexylcinnamaldehyde 165184-98-5		18.2 mg/kg bw/day [4] [6] 525 μ g/cm ² [5] [6] 525 μ g/cm ² [5] [7]	0.078 mg/m ³ [4] [6] 6.28 mg/m ³ [5] [7]
Coumarin 91-64-5		0.79 mg/kg bw/day [4] [6]	6.78 mg/m ³ [4] [6]
2-Methylundecanal 110-41-8		10.46 mg/kg bw/day [4] [6] 100 mg/kg bw/day [4] [7] 35.7 mg/cm ² [5] [6] 71.43 mg/cm ² [5] [7]	36.89 mg/m ³ [4] [6] 352.63 mg/m ³ [4] [7] 92.21 mg/m ³ [5] [6] 881.58 mg/m ³ [5] [7]
Decanal 112-31-2		7.05 mg/kg bw/day [4] [6] 14.1 mg/kg bw/day [4] [7]	24.86 mg/m ³ [4] [6] 49.71 mg/m ³ [4] [7]

Chemical name	Oral	Dermal	Inhalation
		17.62 mg/cm ² [5] [6] 35.24 mg/cm ² [5] [7]	62.14 mg/m ³ [5] [6] 124.28 mg/m ³ [5] [7]
2,6-di-tert-butyl-p-cresol 128-37-0		0.5 mg/kg bw/day [4] [6]	3.5 mg/m ³ [4] [6]
Sodium Hydroxide 1310-73-2			1 mg/m ³ [5] [6]
Dodecanal 112-54-9		14.1 mg/kg bw/day [4] [6] 0.57 µg/cm ² [5] [6]	49.7 mg/m ³ [4] [6]
L-Menthaneone 14073-97-3		7.4 mg/kg bw/day [4] [6]	26.1 mg/m ³ [4] [6]
l-Menthol 89-78-1		13.15 mg/kg bw/day [4] [6]	46.4 mg/m ³ [4] [6]
Tartrazine 400% 1934-21-0		52.82 mg/kg bw/day [4] [6]	372.52 mg/m ³ [4] [6]
Acetyl cedrene 32388-55-9		0.333 mg/kg bw/day [4] [6]	1.17 mg/m ³ [4] [6]
alpha-Pinene 80-56-8		0.542 mg/kg bw/day [4] [6]	3.8 mg/m ³ [4] [6]
Alpha-Isomethyl Ionone 127-51-5		0.375 mg/kg bw/day [4] [6]	8.22 mg/m ³ [4] [6]
Amyl salicylate 2050-08-0		0.9 mg/kg bw/day [4] [6]	3.17 mg/m ³ [4] [6]
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one 56973-85-4		0.714 mg/kg bw/day [4] [6]	2.52 mg/m ³ [4] [6]
Camphene 79-92-5		0.21 mg/kg bw/day [4] [6] 1.25 mg/kg bw/day [4] [7]	110.19 mg/m ³ [4] [6] 110.19 mg/m ³ [4] [7]
p-Mentha-1,4-diene 99-85-4		0.833 mg/kg bw/day [4] [6]	2.939 mg/m ³ [4] [6]
Linalool 78-70-6		2.5 mg/kg bw/day [4] [6] 5 mg/kg bw/day [4] [7] 3 mg/cm ² [5] [6] 3 mg/cm ² [5] [7]	2.8 mg/m ³ [4] [6] 16.5 mg/m ³ [4] [7]
Alpha-Terpinene 99-86-5		0.833333 mg/kg bw/day [4] [6]	2.938596 mg/m ³ [4] [6]
Geraniol 106-24-1		12.5 mg/kg bw/day [4] [6] 11800 µg/cm ² [5] [6]	161.6 mg/m ³ [4] [6]
benzyl benzoate 120-51-4		2.6 mg/kg bw/day [4] [6]	5.1 mg/m ³ [4] [6] 102 mg/m ³ [4] [7]
Citral 5392-40-5		1.7 mg/kg bw/day [4] [6] 140 µg/cm ² [5] [6]	9 mg/m ³ [4] [6]

Notes

[4]	Systemic health effects.
[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides 68955-55-5	0.44 mg/kg bw/day [4] [6]		1.53 mg/m ³ [4] [6]
2,6-dimethyloct-7-en-2-ol 18479-58-8	12.5 mg/kg bw/day [4] [6]		21.7 mg/m ³ [4] [6]
Quaternary ammonium compounds,	3.4 mg/kg bw/day [4] [6]		1.64 mg/m ³ [4] [6]

Chemical name	Oral	Dermal	Inhalation
benzyl (C12 - C16) alkyl dimethyl, chlorides 68424-85-1			
(+)-Bornan-2-one 76-22-2	5 mg/kg bw/day [4] [6]		4.3478 mg/m ³ [4] [6]
Cineole 470-82-6	600 mg/kg bw/day [4] [6]		1.74 mg/m ³ [4] [6]
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol 124-76-5	0.029475 mg/kg bw/day [4] [6]		0.05126087 mg/m ³ [4] [6]
α -Hexylcinnamaldehyde 165184-98-5	0.056 mg/kg bw/day [4] [6]	78.7 μ g/cm ² [5] [6] 78.7 μ g/cm ² [5] [7]	0.019 mg/m ³ [4] [6] 4.71 mg/m ³ [5] [7]
Coumarin 91-64-5	0.39 mg/kg bw/day [4] [6]		1.69 mg/m ³ [4] [6]
2-Methylundecanal 110-41-8	5.23 mg/kg bw/day [4] [6] 25 mg/kg bw/day [4] [7]	50 mg/kg bw/day [4] [6] 50 mg/kg bw/day [4] [7] 17.86 mg/cm ² [5] [6] 35.71 mg/cm ² [5] [7]	9.1 mg/m ³ [4] [6] 86.96 mg/m ³ [4] [7] 22.74 mg/m ³ [5] [6] 217.39 mg/m ³ [5] [7]
Decanal 112-31-2	3.52 mg/kg bw/day [4] [6] 7.05 mg/kg bw/day [4] [7]	7.05 mg/kg bw/day [4] [6] 7.05 mg/kg bw/day [4] [7] 8.81 mg/cm ² [5] [6] 17.62 mg/cm ² [5] [7]	6.13 mg/m ³ [4] [6] 12.26 mg/m ³ [4] [7] 15.32 mg/m ³ [5] [6] 30.65 mg/m ³ [5] [7]
2,6-di-tert-butyl-p-cresol 128-37-0			0.86 mg/m ³ [4] [6]
Sodium Hydroxide 1310-73-2			1 mg/m ³ [5] [6]
Acid Blue No.9 3844-45-9	6 mg/kg bw/day [4] [6]		
Dodecanal 112-54-9	7 mg/kg bw/day [4] [6]	0.28 μ g/cm ² [5] [6]	12.3 mg/m ³ [4] [6]
L-Menthanone 14073-97-3	3.7 mg/kg bw/day [4] [6]		6.4 mg/m ³ [4] [6]
l-Menthol 89-78-1	4.7 mg/kg bw/day [4] [6]		8.17 mg/m ³ [4] [6]
Tartrazine 400% 1934-21-0	26.41 mg/kg bw/day [4] [6]		91.86 mg/m ³ [4] [6]
Acetyl cedrene 32388-55-9	0.167 mg/kg bw/day [4] [6]		0.29 mg/m ³ [4] [6]
alpha-Pinene 80-56-8	0.225 mg/kg bw/day [4] [6]		0.674 mg/m ³ [4] [6]
Alpha-Isomethyl Ionone 127-51-5	35.5 μ g/kg bw/day [4] [6]		1.45 mg/m ³ [4] [6]
Amyl salicylate 2050-08-0	0.45 mg/kg bw/day [4] [6]		0.78 mg/m ³ [4] [6]
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one 56973-85-4	0.255 mg/kg bw/day [4] [6]		0.377 mg/m ³ [4] [6]
Camphene 79-92-5	0.1 mg/kg bw/day [4] [6] 0.625 mg/kg bw/day [4] [7]	0.625 mg/kg bw/day [4] [6] 0.625 mg/kg bw/day [4] [7]	54.3 mg/m ³ [4] [6] 54.3 mg/m ³ [4] [7]
p-Mentha-1,4-diene 99-85-4	0.417 mg/kg bw/day [4] [6]		0.725 mg/m ³ [4] [6]
Linalool 78-70-6	0.2 mg/kg bw/day [4] [6] 1.2 mg/kg bw/day [4] [7]	2.5 mg/kg bw/day [4] [6] 2.5 mg/kg bw/day [4] [7] 1.5 mg/cm ² [5] [6] 1.5 mg/cm ² [5] [7]	0.7 mg/m ³ [4] [6] 4.1 mg/m ³ [4] [7]
Alpha-Terpinene 99-86-5	0.4166666 mg/kg bw/day [4] [6]		0.724638 mg/m ³ [4] [6]
Geraniol	13.75 mg/kg bw/day [4] [6]	11800 μ g/cm ² [5] [6]	47.8 mg/m ³ [4] [6]

Chemical name	Oral	Dermal	Inhalation
106-24-1			
benzyl benzoate 120-51-4	0.4 mg/kg bw/day [4] [6] 78 mg/kg bw/day [4] [7]		1.25 mg/m ³ [4] [6] 25 mg/m ³ [4] [7]
Citral 5392-40-5	0.6 mg/kg bw/day [4] [6]	140 µg/cm ² [5] [6]	2.7 mg/m ³ [4] [6]

Notes

[4]	Systemic health effects.
[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides 68955-55-5	0.0335 mg/L	0.0335 mg/L	0.00335 mg/L		
2,6-dimethyloct-7-en-2-ol 18479-58-8	27.8 µg/L	0.278 mg/L	2.78 µg/L		
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides 68424-85-1	0.0009 mg/L	0.00016 mg/L	0.00096 mg/L		
(+)-Bornan-2-one 76-22-2	1.71 µg/L	17.1 µg/L	0.171 µg/L	1.71 µg/L	
Cineole 470-82-6	57 µg/L	0.57 mg/L	5.7 µg/L		
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol 124-76-5	0.00919 mg/L	0.0919 mg/L	0.00092 mg/L	0.0919 mg/L	
α-Hexylcinnamaldehyde 165184-98-5	0.00126 mg/L	0.00247 mg/L	0.000126 mg/L		
4-tert-ButylClycloHexanol 98-52-2	0.00682 mg/L	0.0682 mg/L	0.000682 mg/L		
Coumarin 91-64-5	19 µg/L	14.2 µg/L	1.9 µg/L		
2-Methylundecanal 110-41-8	0.66 µg/L	1.8 µg/L	66 ng/L	0.18 µg/L	
Decanal 112-31-2	1.17 µg/L	11.7 µg/L	0.117 µg/L		
2,6-di-tert-butyl-p-cresol 128-37-0	0.199 µg/L	1.99 µg/L	0.0199 µg/L		
Dodecanal 112-54-9	0.0035 mg/L	0.035 mg/L	0.00035 mg/L		
L-Menthaneone 14073-97-3	0.0306 mg/L	0.306 mg/L	0.0031 mg/L		
l-Menthol 89-78-1	0.0162 mg/L		0.00162 mg/L		
Tartrazine 400% 1934-21-0	0.12 mg/L	1.2 mg/L	0.012 mg/L		
Acetyl cedrene	1.74 µg/L	8.6 µg/L	0.174 µg/L		

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
32388-55-9					
alpha-Pinene 80-56-8	0.606 µg/L	3.03 µg/L	0.0606 µg/L	0.303 µg/L	
Alpha-Isomethyl Ionone 127-51-5	1.43 µg/L	14.3 µg/L	0.143 µg/L	1.43 µg/L	
Amyl salicylate 2050-08-0	0.77 µg/L	7.7 µg/L	0.077 µg/L		
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one 56973-85-4	1.7 µg/L	17 µg/L	0.17 µg/L	1.7 µg/L	
p-Mentha-1,4-diene 99-85-4	0.002792 mg/L		0.0002792 mg/L		
Linalool 78-70-6	0.2 mg/L	2 mg/L	0.02 mg/L		
Alpha-Terpinene 99-86-5	0.0017 mg/L	0.017 mg/L	0.00017 mg/L	0.017 mg/L	
Geraniol 106-24-1	0.0108 mg/L	0.108 mg/L	0.00108 mg/L		
benzyl benzoate 120-51-4	0.0168 mg/L		0.00168 mg/L		
Citral 5392-40-5	0.00678 mg/L	0.0678 mg/L	0.000678 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides 68955-55-5	5.24 mg/kg sediment dw	0.524 mg/kg sediment dw	24 mg/L	1.02 mg/kg soil dw	11.1 mg/kg food
2,6-dimethyloct-7-en-2-ol 18479-58-8	0.594 mg/kg sediment dw	0.0594 mg/kg sediment dw	10 mg/L	0.103 mg/kg soil dw	111 mg/kg food
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides 68424-85-1	12.27 mg/kg sediment dw	13.09 mg/kg sediment dw	0.4 mg/L	7 mg/kg soil dw	
(+)-Bornan-2-one 76-22-2	0.139 mg/kg sediment dw	0.0174 mg/kg sediment dw	1 mg/L	0.01326 mg/kg soil dw	
Cineole 470-82-6	1.425 mg/kg sediment dw	0.1425 mg/kg sediment dw	10 mg/L	0.25 mg/kg soil dw	40 mg/kg food
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol 124-76-5	0.10261 mg/kg sediment dw	0.01026 mg/kg sediment dw	10 mg/L	0.00999 mg/kg soil dw	1.31 mg/kg food
α-Hexylcinnamaldehyde 165184-98-5	3.2 mg/kg sediment dw	0.064 mg/kg sediment dw	10 mg/L	0.398 mg/kg soil dw	6.6 mg/kg food
4-tert-ButylClycloHexanol 98-52-2	0.138 mg/kg sediment dw	0.0138 mg/kg sediment dw	10 mg/L	0.0236 mg/kg soil dw	10 mg/kg food
Coumarin 91-64-5	0.15 mg/kg sediment dw	0.015 mg/kg sediment dw	6.4 mg/L	0.018 mg/kg soil dw	30.7 mg/kg food
2-Methylundecanal 110-41-8	0.265 mg/kg sediment dw	26.5 µg/kg sediment dw	10 mg/L	52.6 µg/kg soil dw	116 mg/kg food
Decanal 112-31-2	0.0972 mg/kg sediment dw	0.00972 mg/kg sediment dw	3.16 mg/L	0.0187 mg/kg soil dw	313 mg/kg food

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
2,6-di-tert-butyl-p-cresol 128-37-0	99.6 µg/kg sediment dw	9.96 µg/kg sediment dw	0.17 mg/L	47.69 µg/kg soil dw	8.33 mg/kg food
Dodecanal 112-54-9	1.41 mg/kg sediment dw	0.141 mg/kg sediment dw	10 mg/L	0.278 mg/kg soil dw	313 mg/kg food
L-Menthaneone 14073-97-3	0.558 mg/kg sediment dw	0.0558 mg/kg sediment dw	2 mg/L	0.093 mg/kg soil dw	246.67 mg/kg food
l-Menthol 89-78-1	0.20112 mg/kg sediment dw	0.02011 mg/kg sediment dw	3.06 mg/L	0.03063 mg/kg soil dw	
Tartrazine 400% 1934-21-0	0.46992 mg/kg sediment dw	0.046992 mg/kg sediment dw	10 mg/L	0.02353 mg/kg soil dw	
Acetyl cedrene 32388-55-9	24.4 mg/kg sediment dw	2.44 mg/kg sediment dw	10 mg/L	4.87 mg/kg soil dw	
alpha-Pinene 80-56-8	157 µg/kg sediment dw	15.7 µg/kg sediment dw	0.2 mg/L	31.7 µg/kg soil dw	8.76 mg/kg food
Alpha-Isomethyl Ionone 127-51-5	0.443 mg/kg sediment dw	44.3 µg/kg sediment dw	10 mg/L	87.8 µg/kg soil dw	
Amyl salicylate 2050-08-0	0.389 mg/kg sediment dw	0.0389 mg/kg sediment dw	10 mg/L	1.786 mg/kg soil dw	80 mg/kg food
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one 56973-85-4	0.242 mg/kg sediment dw	0.024 mg/kg sediment dw	4.6 mg/L	0.047 mg/kg soil dw	5.67 mg/kg food
p-Mentha-1,4-diene 99-85-4	0.490056696 mg/kg sediment dw	0.0490056696 mg/kg sediment dw	10 mg/L	0.422765624 mg/kg soil dw	
Linalool 78-70-6	2.22 mg/kg sediment dw	0.222 mg/kg sediment dw	10 mg/L	0.327 mg/kg soil dw	7.8 mg/kg food
Alpha-Terpinene 99-86-5	0.19618 mg/kg sediment dw	0.01962 mg/kg sediment dw	0.1 mg/L	0.02271 mg/kg soil dw	8.3333 mg/kg food
Geraniol 106-24-1	0.115 mg/kg sediment dw	0.0115 mg/kg sediment dw	0.7 mg/L	0.0167 mg/kg soil dw	
benzyl benzoate 120-51-4	10.66 mg/kg sediment dw	1.07 mg/kg sediment dw	100 mg/L	2.12 mg/kg soil dw	
Citral 5392-40-5	0.125 mg/kg sediment dw	0.0125 mg/kg sediment dw	1.6 mg/L	0.0209 mg/kg soil dw	

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Liquid
Color	green
Odor	Fresh/Herbal.
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	2.1 - 3.5	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapor pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Liquid Density	0.985 - 1.015	
Relative vapor density	No data available	None known
Particle characteristics		
Particle Size		
Particle Size Distribution		
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information**SECTION 10: Stability and reactivity****10.1. Reactivity**

Reactivity	Stable.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	No known effect based on information supplied.
Eye contact	Causes serious eye irritation. May cause redness, itching, and pain.
Skin contact	May cause irritation.
Ingestion	No known effect based on information supplied.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	230,769.20 mg/kg
ATEmix (dermal)	153,846.20 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Citric Acid Monohydrate	= 3 g/kg (Rat)	> 2000 mg/kg (Rat)	-
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides	-	> 2000 mg/kg (Rat)	-
2,6-dimethyloct-7-en-2-ol	= 3600 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
Quaternary ammonium	= 426 mg/kg (Rat)	-	-

compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides			
α -Hexylcinnamaldehyde	-	> 3000 mg/kg (Rabbit)	> 5 mg/L (Rat) 4 h
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol	= 5200 mg/kg (Rat)	-	-
cis-2-tert-Butylcyclohexyl acetate	-	> 5000 mg/kg (Rabbit)	-
Cineole	= 2480 mg/kg (Rat)	-	-
4-tert-ButylCycloHexanol	= 4200 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
(+)-Bornan-2-one	-	> 2000 mg/kg (Rat)	-
Hexyl cinnamal	= 3100 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	> 5 mg/L (Rat) 4 h
Camphor	-	> 2000 mg/kg (Rat)	-
Eucalyptus Oil	= 2480 mg/kg (Rat)	-	-
Coumarin	> 5000 mg/kg (Rat)	= 293 mg/kg (Rat)	-
Decanal	= 3730 mg/kg (Rat)	= 5040 mg/kg (Rabbit)	-
2-Methylundecanal	> 5 g/kg (Rat)	> 10 mL/kg (Rabbit)	-
2,6-di-tert-butyl-p-cresol	> 2930 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Sodium Hydroxide	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-
Acid Blue No.9	> 2 g/kg (Rat)	-	-
Undecan-2-one	= 5 g/kg (Rat)	> 2 g/kg (Rabbit)	-
Dodecanal	= 23 g/kg (Rat)	> 2000 mg/kg (Rabbit)	-
l-Menthol	= 3180 mg/kg (Rat)	-	= 5289 mg/m ³ (Rat) 4 h
Tartrazine 400%	> 2000 mg/kg (Rat)	-	-
Acetyl cedrene	-	> 5000 mg/kg (Rabbit)	-
alpha-Pinene	= 3700 mg/kg (Rat)	> 5000 mg/kg (Rat)	-
Limonene	= 5300 mg/kg (Rat)	-	-
Mentha Piperita Oil	= 2426 mg/kg (Rat)	-	-
Alpha-Isomethyl Ionone	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-
Amyl salicylate	= 4100 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-
p-Mentha-1,4-diene	= 3650 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
para-Cymene	= 4750 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 9.7 mg/L (Rat) 5 h
Camphene	> 5 g/kg (Rat)	> 2500 mg/kg (Rabbit)	-
beta-Pinene	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-
Pogostemon Cablin Oil	> 5 g/kg (Rat)	-	-

turpentine, oil	= 5760 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 13.7 mg/L (Rat) 4 h
Terpineol	= 2900 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Linalool	= 2790 mg/kg (Rat)	= 5610 mg/kg (Rabbit)	-
Alpha-Terpinene	= 1680 mg/kg (Rat)	-	-
alpha-Terpinolene	= 4390 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Amyl Cinnamal	= 3730 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
Geraniol	= 3600 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
Carvone	= 1640 mg/kg (Rat)	> 4000 mg/kg (Rat)	-
benzyl benzoate	= 500 mg/kg (Rat)	= 4000 mg/kg (Rabbit)	-
Citral	= 4960 mg/kg (Rat)	= 2250 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Other adverse effects	

SECTION 12: Ecological information

12.1. Toxicity**Ecotoxicity** Not considered to be harmful to aquatic life.**Unknown aquatic toxicity** Contains 1.16609 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Citric Acid Monohydrate	-	LC50: =1516mg/L (96h, <i>Lepomis macrochirus</i>)	-	-
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides	-	LC50: 0.223 - 0.46mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 0.823 - 1.61mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =2.4mg/L (96h, <i>Oryzias latipes</i>) LC50: =1.3mg/L (96h, <i>Poecilia reticulata</i>)	-	-
cis-2-tert-Butylcyclohexyl acetate	-	LC50: =5.6mg/L (96h, <i>Danio rerio</i>)	-	-
Cineole	-	LC50: 95.4 - 109mg/L (96h, <i>Pimephales promelas</i>)	-	-
4-tert-ButylClycloHexanol	EC50: =29mg/L (72h, <i>Desmodesmus subspicatus</i>)	-	-	EC50: =46mg/L (48h, <i>Daphnia magna</i>)
Decanal	-	LC50: =1.45mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	-
2-Methylundecanal	-	LC50: =0.35mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	-
2,6-di-tert-butyl-p-cresol	EC50: =6mg/L (72h, <i>Pseudokirchneriella subcapitata</i>) EC50: >0.42mg/L (72h, <i>Desmodesmus subspicatus</i>)	-	-	-
Sodium Hydroxide	-	LC50: =45.4mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	-
Undecan-2-one	-	LC50: 1.39 - 1.62mg/L (96h, <i>Pimephales promelas</i>) LC50: 1.6 - 3.1mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 2.2 - 4.4mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	-
alpha-Pinene	-	LC50: =0.28mg/L (96h, <i>Pimephales promelas</i>)	-	LC50: =41mg/L (48h, <i>Daphnia magna</i>)
Camphene	EC50: >1000mg/L (72h, <i>Desmodesmus subspicatus</i>)	LC50: =0.72mg/L (96h, <i>Brachydanio rerio</i>) LC50: =150mg/L (96h, <i>Brachydanio rerio</i>)	-	EC50: =22mg/L (48h, <i>Daphnia magna</i>)
Linalool	EC50: =88.3mg/L (96h, <i>Desmodesmus subspicatus</i>)	LC50: =27.8mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: =20mg/L (48h, <i>Daphnia magna</i>)
alpha-Terpinolene	-	LC50: =0.805mg/L (96h, <i>Danio rerio</i>)	-	-
Geraniol	-	LC50: =22mg/L (96h,	-	-

		Danio rerio)		
benzyl benzoate	-	LC50: =2.32mg/L (96h, Danio rerio)	-	-
Citral	EC50: =16mg/L (72h, Desmodesmus subspicatus) EC50: =19mg/L (96h, Desmodesmus subspicatus)	-	-	EC50: =7mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability None known.

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Component Information

Chemical name	Partition coefficient
Citric Acid Monohydrate	-1.72
2,6-dimethyloct-7-en-2-ol	3.25
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides	2.75
α -Hexylcinnamaldehyde	5.3
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol	2.92
cis-2-tert-Butylcyclohexyl acetate	4.8
Cineole	3.4
4-tert-ButylClycloHexanol	3.23
(+)-Bornan-2-one	2.414
Camphor	2.414
Decanal	3.8
2-Methylundecanal	4.9
2,6-di-tert-butyl-p-cresol	5.1
Acid Blue No.9	-6.4
Undecan-2-one	4.09
L-Menthanone	3.05
Dodecanal	4.9
I-Menthol	3.4
Tartrazine 400%	-1.572
Acetyl cedrene	5.9
alpha-Pinene	4.1
Alpha-Isomethyl Ionone	4.288
Amyl salicylate	4.5
p-Mentha-1,4-diene	5.4
para-Cymene	4.8
Camphene	4.22
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one	4.1
beta-Caryophyllene	6.23
Linalool	2.9
Alpha-Terpinene	5.3
Amyl Cinnamal	2.498
Geraniol	2.6
benzyl benzoate	3.97
Citral	2.76

12.4. Mobility in soil

Mobility in soil Not determined.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Citric Acid Monohydrate	The substance is not PBT / vPvB
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides	The substance is not PBT / vPvB
2,6-dimethyloct-7-en-2-ol	The substance is not PBT / vPvB
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides	The substance is not PBT / vPvB
α -Hexylcinnamaldehyde	The substance is not PBT / vPvB
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol	The substance is not PBT / vPvB
cis-2-tert-Butylcyclohexyl acetate	The substance is not PBT / vPvB
Cineole	The substance is not PBT / vPvB
4-tert-ButylCycloHexanol	The substance is not PBT / vPvB
(+)-Bornan-2-one	The substance is not PBT / vPvB
Eucalyptus Oil	The substance is not PBT / vPvB
Coumarin	The substance is not PBT / vPvB
Decanal	The substance is not PBT / vPvB
2-Methylundecanal	The substance is not PBT / vPvB
2,6-di-tert-butyl-p-cresol	The substance is not PBT / vPvB
Sodium Hydroxide	The substance is not PBT / vPvB
Acid Blue No.9	The substance is not PBT / vPvB
Undecan-2-one	The substance is not PBT / vPvB
L-Menthanone	The substance is not PBT / vPvB
Dodecanal	The substance is not PBT / vPvB
l-Menthol	The substance is not PBT / vPvB
Tartrazine 400%	The substance is not PBT / vPvB
Acetyl cedrene	The substance is not PBT / vPvB
alpha-Pinene	The substance is not PBT / vPvB
Alpha-Isomethyl Ionone	The substance is not PBT / vPvB
Amyl salicylate	The substance is not PBT / vPvB
p-Mentha-1,4-diene	The substance is not PBT / vPvB
para-Cymene	The substance is not PBT / vPvB
Camphene	The substance is not PBT / vPvB
beta-Pinene	The substance is not PBT / vPvB
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one	The substance is not PBT / vPvB
turpentine, oil	The substance is not PBT / vPvB
beta-Caryophyllene	PBT assessment does not apply
Linalool	The substance is not PBT / vPvB
Alpha-Terpinene	The substance is not PBT / vPvB
alpha-Terpinolene	The substance is not PBT / vPvB
Amyl Cinnamal	The substance is not PBT / vPvB
Geraniol	The substance is not PBT / vPvB
benzyl benzoate	The substance is not PBT / vPvB
Citral	The substance is not PBT / vPvB

12.6. Other adverse effects

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	Not regulated

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (UK REACH - Annex XIV). This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides - 68424-85-1	Product-type 2: Disinfectants and algicides not intended for direct application to humans or animals Product-type 3: Veterinary hygiene Product-type 4: Food and feed area Product-type 8: Wood preservatives Product-type 1: Human hygiene Product-type 10: Construction material preservatives Product-type 11: Preservatives for liquid-cooling and processing systems Product-type 12: Slimicides Product-type 22: Embalming and taxidermist fluids
Undecan-2-one - 112-12-9	Product-type 19: Repellents and attractants
Mentha Piperita Oil - 8006-90-4	Simplified procedure - Category A
Geraniol - 106-24-1	Product-type 18: Insecticides, acaricides and products to control other arthropods Product-type 19: Repellents and attractants

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Chemical name	Poisons and Explosive Precursors
Sodium Hydroxide	Poison, Reportable 12 % of total caustic alkalinity

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report

A Chemical Safety Assessment has not been carried out for this mixture

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H290 - May be corrosive to metals
 H302 - Harmful if swallowed
 H314 - Causes severe skin burns and eye damage
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects
 H411 - Toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	On basis of test data
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Revision date 03/05/2024

Reason for revision Created

**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
 Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

UK SDS version information - XGHS

UL release:
 GHS Revision 7
 2022 Q1

United Kingdom

Partial process, including GHS Wizard, NO TW

Full text of H-Statements referred to under section 3 H290 - May be corrosive to metals H302 - Harmful if swallowed H314 - Causes severe skin burns and eye damage H315 - Causes skin irritation H317 - May cause an allergic skin reaction H318 - Causes serious eye damage H319 - Causes serious eye irritation H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects H411 - Toxic to aquatic life with long lasting effects

Chemical name	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)
Citric Acid Monohydrate	Eye Irrit. 2 (H319)	
Amines, C12-18(even numbered)-alkyldimethyl, N-oxides	Aquatic Chronic 2 (H411) Aquatic Acute 1 (H400) Acute Tox. 4 (H302) Skin Irrit. 2 (H315)	

	Eye Dam. 1 (H318)	
2,6-dimethyloct-7-en-2-ol	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides	Skin Corr. 1B (H314) Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400) Acute Tox. 4 (H302) Eye Dam. 1 (H318)	
exo-1,7,7-trimethylbicyclo[2.2.1]heptan-2-ol	Flam. Sol. 2 (H228) Skin Irrit. 2 (H315)	
Cineole	Flam. Liq. 3 (H226) Skin Sens. 1B (H317)	
4-tert-ButylClycloHexanol	Eye Irrit. 2 (H319)	
(+)-Bornan-2-one	Aquatic Chronic 2 (H411) Acute Tox. 4 (H332) STOT SE 2 (H371) Acute Tox. 4 (H302) Flam. Sol. 2 (H228) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	
Hexyl cinnamal	Aquatic Chronic 2 (H411) Aquatic Acute 1 (H400) Skin Sens. 1B (H317)	
Eucalyptus Oil	Aquatic Chronic 2 (H411) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Sens. 1 (H317) Skin Irrit. 2 (H315)	
Coumarin	Acute Tox. 4 (H302) Skin Sens. 1B (H317)	
Decanal	Eye Irrit. 2 (H319)	
2-Methylundecanal	Aquatic Chronic 1 (H410) Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	
2,6-di-tert-butyl-p-cresol	Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400)	
Sodium Hydroxide	Skin Corr. 1A (H314) Met. Corr. 1 (H290)	Eye Irrit. 2 :: 0.5%<=C<2% Skin Corr. 1A :: C>=5% Skin Corr. 1B :: 2%<=C<5% Skin Irrit. 2 :: 0.5%<=C<2%
Undecan-2-one	Aquatic Chronic 3 (H412) Aquatic Acute 1 (H400)	
L-Menthanone	Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	
Dodecanal	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	
l-Menthol	Skin Irrit. 2 (H315)	
Acetyl cedrene	Aquatic Chronic 1 (H410) Skin Sens. 1B (H317)	
alpha-Pinene	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	
Limonene	Flam. Liq. 3 (H226) Skin Sens. 1 (H317) Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400) Skin Irrit. 2 (H315)	
Alpha-Isomethyl Ionone	Aquatic Chronic 2 (H411) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	
Amyl salicylate	Aquatic Chronic 1 (H410)	

	Acute Tox. 4 (H302)	
p-Mentha-1,4-diene	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226)	
para-Cymene	Aquatic Chronic 2 (H411) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226)	
Camphene	Flam. Liq. 3 (H226) Aquatic Chronic 1 (H410) Eye Irrit. 2 (H319) Flam. Sol. 2 (H228)	
beta-Pinene	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	
1-(5,5-Dimethyl-1-cyclohexen-1-yl)pent-4-en-1-one	Aquatic Chronic 2 (H411) Skin Sens. 1B (H317)	
turpentine, oil	Aquatic Chronic 2 (H411) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Acute Tox. 4 (H332) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Acute Tox. 4 (H312)	
beta-Caryophyllene	Asp. Tox. 1 (H304)	
Terpineol	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	
Linalool	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	
alpha-Terpinolene	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Skin Sens. 1 (H317) Aquatic Chronic 1 (H410)	
Amyl Cinnamal	Aquatic Chronic 2 (H411) Skin Sens. 1B (H317)	
Geraniol	Skin Sens. 1 (H317) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	
Carvone	Skin Sens. 1B (H317)	
benzyl benzoate	Aquatic Chronic 2 (H411) Aquatic Acute 1 (H400) Acute Tox. 4 (H302)	
Citral	Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	