

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Oil of ylang-ylang , artificial

article number: **3343**
Version: **GHS 2.0 en**
Replaces version of: 2021-09-13
Version: (GHS 1)

date of compilation: 2021-09-13
Revision: 2022-06-01

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

1.1 Product identifier

Identification of the substance **Oil of ylang-ylang , artificial**
Article number 3343
Alternative name(s) Oleum Anonae

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

Relevant identified uses: Laboratory chemical
Laboratory and analytical use
Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone:+49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet: :Department Health, Safety and Environment

e-mail (competent person): **sicherheit@carlroth.de**

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	Flammable liquid	4	Flam. Liq. 4	H227
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.4S	Skin sensitisation	1	Skin Sens. 1	H317
3.10	Aspiration hazard	1	Asp. Tox. 1	H304

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For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling

Signal word

Danger

Pictograms

GHS05, GHS07,
GHS08



Hazard statements

H227	Combustible liquid
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage

Precautionary statements

Precautionary statements - prevention

P280 Wear protective gloves

Precautionary statements - response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P331	Do NOT induce vomiting
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

Hazardous ingredients for labelling:

β -Caryophyllene, Geraniol, Salicylic acid benzyl ester, Linalool, Farnesol, Geranyl acetate

2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

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Description of the mixture

Name of sub-stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Benzoic acid benzyl ester	CAS No 120-51-4	10 – < 25	Acute Tox. 4 / H302		
β-Caryophyllene	CAS No 87-44-5	10 – < 25	Skin Sens. 1 / H317 Asp. Tox. 1 / H304		
Salicylic acid benzyl ester	CAS No 118-58-1	5 – < 10	Eye Irrit. 2A / H319 Skin Sens. 1 / H317		
Geraniol	CAS No 106-24-1	5 – < 10	Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1 / H317		
Linalool	CAS No 78-70-6	5 – < 10	Flam. Liq. 4 / H227 Skin Irrit. 2 / H315 Eye Irrit. 2A / H319 Skin Sens. 1B / H317		
Germacrene D	CAS No 37839-63-7	1 – < 5	Asp. Tox. 1 / H304		
Benzyl alcohol	CAS No 100-51-6	1 – < 5	Acute Tox. 4 / H302 Acute Tox. 4 / H332		
α-Humulene	CAS No 6753-98-6	1 – < 5	Flam. Liq. 4 / H227		
Geranyl acetate	CAS No 105-87-3	< 1	Skin Irrit. 2 / H315 Skin Sens. 1 / H317		
4-methylanisole	CAS No 104-93-8	< 1	Flam. Liq. 4 / H227 Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Repr. 2 / H361fd		
Farnesol	CAS No 4602-84-0	< 1	Skin Irrit. 2 / H315 Skin Sens. 1 / H317		

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

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Following skin contact

Rinse skin with water/shower. In case of skin reactions, consult a physician.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

Call a physician immediately. Observe aspiration hazard if vomiting occurs.

4.2 Most important symptoms and effects, both acute and delayed

Aspiration hazard, Vomiting, Risk of blindness, Risk of serious damage to eyes, Irritation, Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings
water spray, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours may form explosive mixtures with air.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Do not breathe vapour/spray. Avoid contact with skin and eyes. Avoidance of ignition sources.

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6.2 Environmental precautions

Keep away from drains, surface and ground water. Danger of explosion.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation.

Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Benzoic acid benzyl ester	120-51-4	DNEL	5.1 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Benzoic acid benzyl ester	120-51-4	DNEL	102 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Benzoic acid benzyl ester	120-51-4	DNEL	2.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Salicylic acid benzyl ester	118-58-1	DNEL	7.8 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Salicylic acid benzyl ester	118-58-1	DNEL	2.21 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Linalool	78-70-6	DNEL	2.8 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Linalool	78-70-6	DNEL	16.5 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Linalool	78-70-6	DNEL	2.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Linalool	78-70-6	DNEL	5 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Geraniol	106-24-1	DNEL	161.6 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Geraniol	106-24-1	DNEL	12.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Geraniol	106-24-1	DNEL	11,800 µg/cm ²	human, dermal	worker (industry)	chronic - local effects
Farnesol	4602-84-0	DNEL	1.85 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Farnesol	4602-84-0	DNEL	1.32 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Geranyl acetate	105-87-3	DNEL	62.59 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Geranyl acetate	105-87-3	DNEL	35.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
4-methylanisole	104-93-8	DNEL	1.64 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
4-methylanisole	104-93-8	DNEL	7.05 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
4-methylanisole	104-93-8	DNEL	0.467 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

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Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
4-methylanisole	104-93-8	DNEL	2 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Benzoic acid benzyl ester	120-51-4	PNEC	0.017 mg/l	aquatic organisms	freshwater	short-term (single instance)
Benzoic acid benzyl ester	120-51-4	PNEC	0.002 mg/l	aquatic organisms	marine water	short-term (single instance)
Benzoic acid benzyl ester	120-51-4	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Benzoic acid benzyl ester	120-51-4	PNEC	10.66 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Benzoic acid benzyl ester	120-51-4	PNEC	1.07 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Benzoic acid benzyl ester	120-51-4	PNEC	2.12 mg/kg	terrestrial organisms	soil	short-term (single instance)
Salicylic acid benzyl ester	118-58-1	PNEC	0.001 mg/l	aquatic organisms	freshwater	short-term (single instance)
Salicylic acid benzyl ester	118-58-1	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Salicylic acid benzyl ester	118-58-1	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Salicylic acid benzyl ester	118-58-1	PNEC	0.583 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Salicylic acid benzyl ester	118-58-1	PNEC	0.058 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Salicylic acid benzyl ester	118-58-1	PNEC	1.41 mg/kg	terrestrial organisms	soil	short-term (single instance)
Linalool	78-70-6	PNEC	0.2 mg/l	aquatic organisms	freshwater	short-term (single instance)
Linalool	78-70-6	PNEC	0.02 mg/l	aquatic organisms	marine water	short-term (single instance)
Linalool	78-70-6	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Linalool	78-70-6	PNEC	2.22 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Linalool	78-70-6	PNEC	0.222 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Linalool	78-70-6	PNEC	0.327 mg/kg	terrestrial organisms	soil	short-term (single instance)
Geraniol	106-24-1	PNEC	0.011 mg/l	aquatic organisms	freshwater	short-term (single instance)

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Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Geraniol	106-24-1	PNEC	0.001 mg/l	aquatic organisms	marine water	short-term (single instance)
Geraniol	106-24-1	PNEC	0.7 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Geraniol	106-24-1	PNEC	0.115 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Geraniol	106-24-1	PNEC	0.011 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Geraniol	106-24-1	PNEC	0.017 mg/kg	terrestrial organisms	soil	short-term (single instance)
Farnesol	4602-84-0	PNEC	0.568 µg/l	aquatic organisms	freshwater	short-term (single instance)
Farnesol	4602-84-0	PNEC	0.057 µg/l	aquatic organisms	marine water	short-term (single instance)
Farnesol	4602-84-0	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Farnesol	4602-84-0	PNEC	87.19 µg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Farnesol	4602-84-0	PNEC	8.72 µg/kg	aquatic organisms	marine sediment	short-term (single instance)
Farnesol	4602-84-0	PNEC	17.07 µg/kg	terrestrial organisms	soil	short-term (single instance)
Geranyl acetate	105-87-3	PNEC	3.72 µg/l	aquatic organisms	freshwater	short-term (single instance)
Geranyl acetate	105-87-3	PNEC	0.372 µg/l	aquatic organisms	marine water	short-term (single instance)
Geranyl acetate	105-87-3	PNEC	8 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Geranyl acetate	105-87-3	PNEC	0.442 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Geranyl acetate	105-87-3	PNEC	0.044 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Geranyl acetate	105-87-3	PNEC	0.086 mg/kg	terrestrial organisms	soil	short-term (single instance)
4-methylanisole	104-93-8	PNEC	27 µg/l	aquatic organisms	freshwater	short-term (single instance)
4-methylanisole	104-93-8	PNEC	2.7 µg/l	aquatic organisms	marine water	short-term (single instance)
4-methylanisole	104-93-8	PNEC	0.3 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
4-methylanisole	104-93-8	PNEC	1.17 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
4-methylanisole	104-93-8	PNEC	0.117 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
4-methylanisole	104-93-8	PNEC	0.219 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

NBR (Nitrile rubber)

• material thickness

0,4 mm

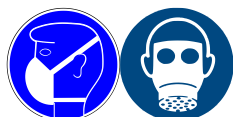
• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 ° C , colour code: Brown).

Environmental exposure controls

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Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear - yellowish brown
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	not determined
Flash point	78 °C
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not determined

Solubility(ies)

Water solubility (practically insoluble)

Partition coefficient

Partition coefficient n-octanol/water (log value): this information is not available

Vapour pressure not determined

Density and/or relative density

Density 0.96 g/cm³ at 20 °C

Relative vapour density information on this property is not available

Particle characteristics not relevant (liquid)

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard classes: There is no additional information.

Other safety characteristics:

Refractive index 1.5 – 1.52

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SECTION 10: Stability and reactivity

10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition.

If heated

Risk of ignition. Vapours may form explosive mixtures with air.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Benzyl alcohol	100-51-6	oral	1,580 mg/kg
Benzyl alcohol	100-51-6	inhalation: vapour	11 mg/l/4h
Benzyl alcohol	100-51-6	inhalation: dust/mist	>4.178 mg/l/4h
4-methylanisole	104-93-8	oral	1,920 mg/kg

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Benzoic acid benzyl ester	120-51-4	oral	LD50	>2,000 mg/kg	rat
β-Caryophyllene	87-44-5	oral	LD50	>5,000 mg/kg	mouse

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Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Salicylic acid benzyl ester	118-58-1	oral	LD50	3,339 mg/kg	rat
Salicylic acid benzyl ester	118-58-1	dermal	LD50	>2,000 mg/kg	rabbit
Linalool	78-70-6	oral	LD50	2,790 mg/kg	rat
Linalool	78-70-6	dermal	LD50	5,610 mg/kg	rabbit
Geraniol	106-24-1	oral	LD50	3,600 mg/kg	rat
Geraniol	106-24-1	dermal	LD50	>5,000 mg/kg	rabbit
Benzyl alcohol	100-51-6	oral	LD50	1,580 mg/kg	mouse
Benzyl alcohol	100-51-6	inhalation: dust/mist	LC50	>4,178 mg/m ³ / 4h	rat
Farnesol	4602-84-0	oral	LD50	>5,000 mg/kg	rat
Farnesol	4602-84-0	dermal	LD50	>15,000 mg/kg	rat
Geranyl acetate	105-87-3	oral	LD50	6,330 mg/kg	rat
4-methylanisole	104-93-8	oral	LD50	1,920 mg/kg	rat
4-methylanisole	104-93-8	inhalation: va- pour	LC50	>6.1 mg/l/4h	rat

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

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- **If swallowed**

vomiting, aspiration hazard

- **If in eyes**

Causes serious eye damage, risk of blindness

- **If inhaled**

Data are not available.

- **If on skin**

causes skin irritation, May produce an allergic reaction, pruritis, localised redness

- **Other information**

none

11.2 Endocrine disrupting properties

None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Benzoic acid benzyl ester	120-51-4	LC50	0.29 mg/l	striped brill	96 h
Benzoic acid benzyl ester	120-51-4	EC50	3.09 mg/l	aquatic invertebrates	48 h
Benzoic acid benzyl ester	120-51-4	ErC50	0.475 mg/l	algae	72 h
β -Caryophyllene	87-44-5	EC50	>0.17 mg/l	daphnia magna	48 h
β -Caryophyllene	87-44-5	ErC50	>0.033 mg/l	algae	72 h
Salicylic acid benzyl ester	118-58-1	LC50	1.03 mg/l	fish	96 h
Salicylic acid benzyl ester	118-58-1	EC50	1.16 mg/l	aquatic invertebrates	48 h
Salicylic acid benzyl ester	118-58-1	ErC50	1.29 mg/l	algae	72 h
Linalool	78-70-6	LC50	27.8 mg/l	fish	96 h
Linalool	78-70-6	EC50	59 mg/l	aquatic invertebrates	48 h
Linalool	78-70-6	ErC50	156.7 mg/l	algae	96 h
Geraniol	106-24-1	LC50	22 mg/l	fish	96 h
Geraniol	106-24-1	EC50	10.8 mg/l	aquatic invertebrates	48 h
Geraniol	106-24-1	ErC50	13.1 mg/l	algae	72 h
Benzyl alcohol	100-51-6	LC50	460 mg/l	fish	96 h

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Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Benzyl alcohol	100-51-6	EC50	230 mg/l	aquatic invertebrates	48 h
Benzyl alcohol	100-51-6	ErC50	770 mg/l	algae	72 h
Farnesol	4602-84-0	EC50	2.2 mg/l	daphnia magna	48 h
Farnesol	4602-84-0	LC50	1.8 mg/l	rainbow trout (Oncorhynchus mykiss)	96 h
Geranyl acetate	105-87-3	LC50	68.12 mg/l	fish	96 h
Geranyl acetate	105-87-3	EC50	14.1 mg/l	aquatic invertebrates	48 h
Geranyl acetate	105-87-3	ErC50	3.72 mg/l	algae	72 h
4-methylanisole	104-93-8	LC50	68.2 mg/l	fish	96 h
4-methylanisole	104-93-8	EC50	27 mg/l	aquatic invertebrates	48 h
4-methylanisole	104-93-8	ErC50	>500 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Benzoic acid benzyl ester	120-51-4	LC50	11 mg/l	aquatic invertebrates	24 h
Benzoic acid benzyl ester	120-51-4	EC50	>10,000 mg/l	microorganisms	3 h
Linalool	78-70-6	EC50	>100 mg/l	microorganisms	30 min
Geraniol	106-24-1	EC50	70 mg/l	microorganisms	30 min
Benzyl alcohol	100-51-6	LC50	770 mg/l	fish	1 h
Benzyl alcohol	100-51-6	EC50	66 mg/l	aquatic invertebrates	21 d

Biodegradation

Data are not available.

12.2 Process of degradability

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Benzoic acid benzyl ester	120-51-4	biotic/abiotic	94 %	28 d		
Benzoic acid benzyl ester	120-51-4	oxygen depletion	94 %	28 d		ECHA
β -Caryophyllene	87-44-5	oxygen depletion	10 %	28 d		ECHA
Salicylic acid benzyl ester	118-58-1	oxygen depletion	93 %	28 d		ECHA

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Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Linalool	78-70-6	oxygen depletion	40.9 %	5 d		ECHA
Geraniol	106-24-1	DOC removal	90 – 100 %	3 d		ECHA
Benzyl alcohol	100-51-6	oxygen depletion	92 – 96 %	14 d		ECHA
Benzyl alcohol	100-51-6	DOC removal	95 %	21 d		ECHA
Geranyl acetate	105-87-3	oxygen depletion	>70 %	28 d		ECHA
4-methylanisole	104-93-8	oxygen depletion	79 %	28 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Benzoic acid benzyl ester	120-51-4	193.4	3.97 (25 °C)	
β -Caryophyllene	87-44-5		6.23 (pH value: 7, 25 °C)	
Salicylic acid benzyl ester	118-58-1		4 (35 °C)	
Linalool	78-70-6		2.9 (pH value: 7, 20 °C)	
Geraniol	106-24-1		2.6 (25 °C)	
Benzyl alcohol	100-51-6		1 (20 °C)	
Farnesol	4602-84-0		$\geq 4.6 - \leq 4.78$ (22.3 °C)	
Geranyl acetate	105-87-3		4.04	
4-methylanisole	104-93-8		2.8 (pH value: 7, 35 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

Relevant provisions relating to waste(Basel Convention)

Properties of waste which render it hazardous

H11 Toxic (Delayed or chronic)

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number

UN RTDG	UN 3082
IMDG-Code	UN 3082
ICAO-TI	UN 3082

14.2 UN proper shipping name

UN RTDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
ICAO-TI	Environmentally hazardous substance, liquid, n.o.s.
Technical name (hazardous ingredients)	Benzoic acid benzyl ester, Farnesol

14.3 Transport hazard class(es)

UN RTDG	9
IMDG-Code	9
ICAO-TI	9

14.4 Packing group

UN RTDG	III
IMDG-Code	III
ICAO-TI	III

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14.5 Environmental hazards hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment): Benzoic acid benzyl ester, Farnesol

14.6 Special precautions for user
There is no additional information.

14.7 Transport in bulk according to IMO instruments
The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport information National regulations Additional information (UN RTDG)

UN number	3082
Class	9
Environmental hazards	Yes Hazardous to the aquatic environment
Packing group	III
Danger label(s)	9 Fish and tree



Special provisions (SP)	274, 331, 335, 375 UN RTDG
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Excepted quantities (EQ)	E1 UN RTDG
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Limited quantities (LQ)	5 L UN RTDG
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International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
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Particulars in the shipper's declaration	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (contains: Benzoic acid benzyl ester, Farnesol), 9, III
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Marine pollutant	yes (hazardous to the aquatic environment), (Benzoic acid benzyl ester)
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Danger label(s)	9, "Fish and tree"
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Special provisions (SP)	274, 335, 969
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Excepted quantities (EQ)	E1
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Limited quantities (LQ)	5 L
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EmS	F-A, S-F
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Stowage category	A
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International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Particulars in the shipper's declaration	UN3082, Environmentally hazardous substance, liquid, n.o.s., (contains: Benzoic acid benzyl ester, Farnesol), 9, III
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, "Fish and tree"
	
Special provisions (SP)	A97, A158, A197, A215
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

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

There is no additional information.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	not all ingredients are listed
CA	DSL	not all ingredients are listed
CA	NDSL	not all ingredients are listed
CN	IECSC	not all ingredients are listed
EU	ECSI	not all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	not all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	not all ingredients are listed
PH	PICCS	not all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	not all ingredients are listed

Legend

AIIC Australian Inventory of Industrial Chemicals
CICR Chemical Inventory and Control Regulation

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Legend

CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.2	Hazardous ingredients for labelling: β-Caryophyllene, Geraniol, Linalool, Salicylic acid benzyl ester, Farnesol, Geranyl acetate	Hazardous ingredients for labelling: β-Caryophyllene, Geraniol, Salicylic acid benzyl ester, Linalool, Farnesol, Geranyl acetate	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≅ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye

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Abbr.	Descriptions of used abbreviations
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
Repr.	Reproductive toxicity
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties. The classification is based on tested mixture.

Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

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article number: **3343**

Code	Text
H227	Combustible liquid.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.