

Safety data sheet

acc. to Safe Work Australia - Code of Practice



Oil of thyme natural

article number: **K500**
Version: **GHS 1.0 en**

date of compilation: 2021-09-17

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

1.1 Product identifier

Identification of the substance	Oil of thyme natural
Article number	K500
CAS number	84776-98-7

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 squirting or spraying. Do not use for products which come into direct contact with the skin. 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	Cat-egory	Hazard class and category	Hazard statement
2.6	Flammable liquid	3	Flam. Liq. 3	H226
3.2	Skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.4S	Skin sensitisation	1	Skin Sens. 1	H317
3.7	Reproductive toxicity	2	Repr. 2	H361fd

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Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.10	Aspiration hazard	1	Asp. Tox. 1	H304

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling

Signal word

Danger

Pictograms

GHS02, GHS05,
GHS07, GHS08



Hazard statements

H226	Flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child (if exposed)

Precautionary statements

Precautionary statements - prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P260	Do not breathe dusts or mists
P280	Wear eye protection/face protection

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
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

Precautionary statements - storage

P403+P235	Store in a well-ventilated place. Keep cool
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2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical identity of the main constituent

"UVCB substance" (substance of unknown or variable composition).





















Name of substance

Oil of thyme

CAS No

84776-98-7

Impurities and additives, classification acc. to GHS

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Geraniol	CAS No 106-24-1	10 – < 25	Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1 / H317	 
Carvacrol	CAS No 499-75-2	10 – < 25	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Irrit. 2A / H319	
Thymol	CAS No 89-83-8	10 – < 25	Acute Tox. 4 / H302 Skin Corr. 1C / H314 Eye Dam. 1 / H318	 
p-Cymene	CAS No 99-87-6	10 – < 25	Flam. Liq. 3 / H226 Repr. 2 / H361f Asp. Tox. 1 / H304	 
γ-Terpinene	CAS No 99-85-4	5 – < 10	Flam. Liq. 3 / H226 Repr. 2 / H361fd	 
Geranyl acetate	CAS No 105-87-3	1 – < 5	Skin Irrit. 2 / H315 Skin Sens. 1 / H317	
Myrcene	CAS No 123-35-3	1 – < 5	Flam. Liq. 3 / H226 Skin Irrit. 2 / H315 Eye Irrit. 2A / H319 Skin Sens. 1 / H317 Asp. Tox. 1 / H304	  
(+)-Camphor	CAS No 464-49-3	1 – < 5	Flam. Sol. 2 / H228 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 STOT SE 2 / H371	   
Eucalyptol	CAS No 470-82-6	1 – < 5	Flam. Liq. 3 / H226 Skin Sens. 1B / H317	 
4-Terpinenol	CAS No 562-74-3	1 – < 5	Flam. Liq. 4 / H227 Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Irrit. 2A / H319 STOT SE 3 / H335	


















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Impurities and additives, classification acc. to GHS				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
L-(-)-Limonene	CAS No 5989-54-8	1 – < 5	Flam. Liq. 3 / H226 Skin Irrit. 2 / H315 Skin Sens. 1 / H317	 
Linalool	CAS No 78-70-6	1 – < 5	Flam. Liq. 4 / H227 Skin Irrit. 2 / H315 Eye Irrit. 2A / H319 Skin Sens. 1B / H317	
Camphene	CAS No 79-92-5	1 – < 5	Flam. Sol. 1 / H228 Eye Irrit. 2A / H319	 
DL- α -Pinene	CAS No 80-56-8	1 – < 5	Flam. Liq. 3 / H226 Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Skin Sens. 1A / H317 Asp. Tox. 1 / H304	  
β -Caryophyllene	CAS No 87-44-5	1 – < 5	Skin Sens. 1 / H317 Asp. Tox. 1 / H304	 
alpha-Terpineol	CAS No 98-55-5	1 – < 5	Skin Irrit. 2 / H315 Eye Irrit. 2A / H319	
α -Terpinene	CAS No 99-86-5	1 – < 5	Flam. Liq. 3 / H226 Acute Tox. 4 / H302 Asp. Tox. 1 / H304	  
β -Pinene	CAS No 127-91-3	< 1	Flam. Liq. 3 / H226 Skin Irrit. 2 / H315 Skin Sens. 1B / H317 Asp. Tox. 1 / H304	  

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation

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

Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

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. Protect uninjured eye.

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Following ingestion

Rinse mouth. Do not induce vomiting. Aspiration hazard. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions, Irritation, Corrosion, Aspiration hazard, Gastric perforation, Risk of serious damage to eyes

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. Vapours may form explosive mixtures with air. Places which are not ventilated, e.g. un-ventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

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. Wear full chemical protective clothing.

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. Use personal protective equipment as required. Avoidance of ignition sources. Provide adequate ventilation.

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.

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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. Handle and open container with care. Avoid exposure. When not in use, keep containers tightly closed. Clear contaminated areas thoroughly.

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. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ground/bond container and receiving equipment.

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
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
γ-Terpinene	99-85-4	DNEL	2.939 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
γ-Terpinene	99-85-4	DNEL	0.833 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
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
L-(-)-Limonene	5989-54-8	DNEL	33.3 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
L-(-)-Limonene	5989-54-8	DNEL	222 µg/cm ²	human, dermal	worker (industry)	acute - local effects
DL-α-Pinene	80-56-8	DNEL	3.8 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DL-α-Pinene	80-56-8	DNEL	0.542 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Camphene	79-92-5	DNEL	110.2 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Camphene	79-92-5	DNEL	110.2 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Camphene	79-92-5	DNEL	0.21 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Camphene	79-92-5	DNEL	1.25 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

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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
α -Terpinene	99-86-5	DNEL	2.939 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
α -Terpinene	99-86-5	DNEL	0.833 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Eucalyptol	470-82-6	DNEL	7.05 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Eucalyptol	470-82-6	DNEL	2 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
(+)-Camphor	464-49-3	DNEL	17.63 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
(+)-Camphor	464-49-3	DNEL	10 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
β -Pinene	127-91-3	DNEL	5.69 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
β -Pinene	127-91-3	DNEL	0.8 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
β -Pinene	127-91-3	DNEL	54 μ g/cm ²	human, dermal	worker (industry)	chronic - local effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Geraniol	106-24-1	PNEC	0.011 mg/l	aquatic organisms	freshwater	short-term (single instance)
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)
γ -Terpinene	99-85-4	PNEC	0.003 mg/l	aquatic organisms	freshwater	short-term (single instance)
γ -Terpinene	99-85-4	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
γ -Terpinene	99-85-4	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
γ -Terpinene	99-85-4	PNEC	0.49 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
γ -Terpinene	99-85-4	PNEC	0.049 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

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Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
γ-Terpinene	99-85-4	PNEC	0.423 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)
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)
α-Terpineol	98-55-5	PNEC	68 µg/l	aquatic organisms	freshwater	short-term (single instance)
α-Terpineol	98-55-5	PNEC	6.8 µg/l	aquatic organisms	marine water	short-term (single instance)
α-Terpineol	98-55-5	PNEC	2.6 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
α-Terpineol	98-55-5	PNEC	1.85 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
α-Terpineol	98-55-5	PNEC	0.185 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
α-Terpineol	98-55-5	PNEC	0.329 mg/kg	terrestrial organisms	soil	short-term (single instance)
L-(-)-Limonene	5989-54-8	PNEC	5.4 µg/l	aquatic organisms	freshwater	short-term (single instance)
L-(-)-Limonene	5989-54-8	PNEC	0.54 µg/l	aquatic organisms	marine water	short-term (single instance)
L-(-)-Limonene	5989-54-8	PNEC	0.2 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

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Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
L-(-)-Limonene	5989-54-8	PNEC	1.322 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
L-(-)-Limonene	5989-54-8	PNEC	0.132 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
L-(-)-Limonene	5989-54-8	PNEC	0.262 mg/kg	terrestrial organisms	soil	short-term (single instance)
DL- α -Pinene	80-56-8	PNEC	0.606 μ g/l	aquatic organisms	freshwater	short-term (single instance)
DL- α -Pinene	80-56-8	PNEC	0.061 μ g/l	aquatic organisms	marine water	short-term (single instance)
DL- α -Pinene	80-56-8	PNEC	0.2 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
DL- α -Pinene	80-56-8	PNEC	157 μ g/kg	aquatic organisms	freshwater sediment	short-term (single instance)
DL- α -Pinene	80-56-8	PNEC	15.7 μ g/kg	aquatic organisms	marine sediment	short-term (single instance)
DL- α -Pinene	80-56-8	PNEC	31.7 μ g/kg	terrestrial organisms	soil	short-term (single instance)
Camphene	79-92-5	PNEC	0.001 mg/l	aquatic organisms	freshwater	short-term (single instance)
Camphene	79-92-5	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Camphene	79-92-5	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Camphene	79-92-5	PNEC	0.026 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Camphene	79-92-5	PNEC	0.003 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Camphene	79-92-5	PNEC	0.021 mg/kg	terrestrial organisms	soil	short-term (single instance)
Eucalyptol	470-82-6	PNEC	57 μ g/l	aquatic organisms	freshwater	short-term (single instance)
Eucalyptol	470-82-6	PNEC	5.7 μ g/l	aquatic organisms	marine water	short-term (single instance)
Eucalyptol	470-82-6	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Eucalyptol	470-82-6	PNEC	1.425 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Eucalyptol	470-82-6	PNEC	0.142 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Eucalyptol	470-82-6	PNEC	0.25 mg/kg	terrestrial organisms	soil	short-term (single instance)
(+)-Camphor	464-49-3	PNEC	1.71 μ g/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
(+)-Camphor	464-49-3	PNEC	0.171 µg/l	aquatic organisms	marine water	short-term (single instance)
(+)-Camphor	464-49-3	PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
(+)-Camphor	464-49-3	PNEC	0.139 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
(+)-Camphor	464-49-3	PNEC	0.017 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
(+)-Camphor	464-49-3	PNEC	0.013 mg/kg	terrestrial organisms	soil	short-term (single instance)
β-Pinene	127-91-3	PNEC	1.004 µg/l	aquatic organisms	freshwater	short-term (single instance)
β-Pinene	127-91-3	PNEC	0.1 µg/l	aquatic organisms	marine water	short-term (single instance)
β-Pinene	127-91-3	PNEC	3.26 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
β-Pinene	127-91-3	PNEC	0.337 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
β-Pinene	127-91-3	PNEC	0.034 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
β-Pinene	127-91-3	PNEC	0.067 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. Wear face protection.

Skin protection



• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. 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

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to substance mixtures, they may only be considered as a guide.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

0,4 mm

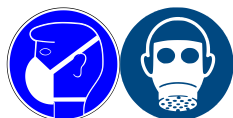
- **breakthrough times of the glove material**

>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

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	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	53 °C
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not determined

Solubility(ies)

Water solubility	no data available
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Partition coefficient

Partition coefficient n-octanol/water (log value):	this information is not available
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Vapour pressure	not determined
Density	0.91 g/cm ³ at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)
<u>Other safety parameters</u>	
Oxidising properties	none

9.2 Other information

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

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. 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

No known hazardous reactions.

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

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

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Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Thymol	89-83-8	oral	LD50	980 mg/kg	rat
Thymol	89-83-8	dermal	LD50	>2,000 mg/kg	rat
Carvacrol	499-75-2	oral	LD50	810 mg/kg	rat
p-Cymene	99-87-6	oral	LD50	4,750 mg/kg	rat
p-Cymene	99-87-6	dermal	LD50	>5,000 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
γ-Terpinene	99-85-4	oral	LD50	>2,000 mg/kg	rat
γ-Terpinene	99-85-4	dermal	LD50	>2,000 mg/kg	rat
Linalool	78-70-6	oral	LD50	2,790 mg/kg	rat
Linalool	78-70-6	dermal	LD50	5,610 mg/kg	rabbit
Geranyl acetate	105-87-3	oral	LD50	6,330 mg/kg	rat
β-Caryophyllene	87-44-5	oral	LD50	>5,000 mg/kg	mouse
4-Terpinenol	562-74-3	oral	LD50	1,300 mg/kg	rat
4-Terpinenol	562-74-3	dermal	LD50	>2,500 – <5,000 mg/kg	rabbit
alpha-Terpineol	98-55-5	oral	LD50	4,300 mg/kg	rat
alpha-Terpineol	98-55-5	dermal	LD50	>2,000 mg/kg	rat
Myrcene	123-35-3	oral	LD50	>3,380 mg/kg	mouse
Myrcene	123-35-3	dermal	LD50	>5,000 mg/kg	rabbit
DL-α-Pinene	80-56-8	dermal	LD50	>2,000 mg/kg	rat
DL-α-Pinene	80-56-8	oral	LD50	3,700 mg/kg	rat
α-Terpinene	99-86-5	oral	LD50	1,680 mg/kg	rat
α-Terpinene	99-86-5	dermal	LD50	>2,000 mg/kg	rat
Eucalyptol	470-82-6	oral	LD50	2,480 mg/kg	rat
(+)-Camphor	464-49-3	oral	LD50	1,310 mg/kg	mouse
(+)-Camphor	464-49-3	dermal	LD50	>2,000 mg/kg	rat
β-Pinene	127-91-3	oral	LD50	4,700 mg/kg	rat

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

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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

Suspected of damaging the unborn child (if exposed). Suspected of damaging fertility (if exposed).

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

• If swallowed

vomiting, aspiration hazard, If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

• If in eyes

causes burns, Causes serious eye damage, risk of blindness

• If inhaled

Data are not available.

• If on skin

causes severe burns, causes poorly healing wounds, May produce an allergic reaction, pruritis, localised redness

• Other information

none

11.2 Endocrine disrupting properties

Not 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 sub-stance	CAS No	Endpoint	Value	Species	Exposure time
Thymol	89-83-8	LC50	3.2 mg/l	fish	96 h
Thymol	89-83-8	ErC50	14 mg/l	algae	72 h
Thymol	89-83-8	EC50	7.7 mg/l	algae	72 h

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Aquatic toxicity (acute) of components of the mixture

Name of sub-stance	CAS No	Endpoint	Value	Species	Exposure time
Carvacrol	499-75-2	LC50	6.17 mg/l	fish	96 h
Carvacrol	499-75-2	EC50	6.06 mg/l	aquatic invertebrates	48 h
Carvacrol	499-75-2	ErC50	4.05 mg/l	algae	72 h
p-Cymene	99-87-6	LC50	48 mg/l	fish	96 h
p-Cymene	99-87-6	EC50	3.7 mg/l	aquatic invertebrates	48 h
p-Cymene	99-87-6	ErC50	4.03 mg/l	algae	72 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
γ-Terpinene	99-85-4	EC50	2.792 mg/l	fish	96 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
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
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
alpha-Terpineol	98-55-5	LC50	70 mg/l	fish	96 h
alpha-Terpineol	98-55-5	EC50	73 mg/l	aquatic invertebrates	48 h
alpha-Terpineol	98-55-5	ErC50	68 mg/l	algae	72 h
Myrcene	123-35-3	EC50	1.47 mg/l	aquatic invertebrates	48 h
Myrcene	123-35-3	EC50	0.31 mg/l	algae	72 h
Myrcene	123-35-3	ErC50	0.342 mg/l	algae	72 h
DL-α-Pinene	80-56-8	LC50	0.303 mg/l	fish	96 h
DL-α-Pinene	80-56-8	EC50	0.475 mg/l	aquatic invertebrates	48 h
Camphene	79-92-5	LC50	0.72 mg/l	fish	96 h
Camphene	79-92-5	EC50	0.72 mg/l	aquatic invertebrates	48 h
Camphene	79-92-5	ErC50	>1,000 mg/l	algae	72 h
α-Terpinene	99-86-5	LC50	3,150 µg/l	fish	96 h
α-Terpinene	99-86-5	EC50	1.7 mg/l	aquatic invertebrates	48 h
Eucalyptol	470-82-6	LC50	57 mg/l	fish	96 h

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Aquatic toxicity (acute) of components of the mixture

Name of sub-stance	CAS No	Endpoint	Value	Species	Exposure time
Eucalyptol	470-82-6	EC50	>100 mg/l	aquatic invertebrates	48 h
Eucalyptol	470-82-6	ErC50	>74 mg/l	algae	72 h
(+)-Camphor	464-49-3	LC50	33.25 mg/l	fish	96 h
(+)-Camphor	464-49-3	EC50	4.23 mg/l	aquatic invertebrates	48 h
(+)-Camphor	464-49-3	ErC50	1.71 mg/l	algae	72 h
β -Pinene	127-91-3	LC50	0.68 mg/l	rainbow trout (Onco-rhynchus mykiss)	96 h
β -Pinene	127-91-3	EC50	1.09 mg/l	daphnia magna	48 h
β -Pinene	127-91-3	ErC50	0.7 mg/l	Pseudokirchneriella subcapitata	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of sub-stance	CAS No	Endpoint	Value	Species	Exposure time
Thymol	89-83-8	EC50	3.5 mg/l	aquatic invertebrates	21 d
Carvacrol	499-75-2	EC50	75.75 mg/l	microorganisms	3 h
Geraniol	106-24-1	EC50	70 mg/l	microorganisms	30 min
γ -Terpinene	99-85-4	EC50	>1,000 mg/l	microorganisms	3 h
Linalool	78-70-6	EC50	>100 mg/l	microorganisms	30 min
Camphene	79-92-5	EC50	>1,000 mg/l	microorganisms	3 h
Eucalyptol	470-82-6	EC50	>100 mg/l	microorganisms	3 h
(+)-Camphor	464-49-3	EC50	>100 mg/l	microorganisms	3 h
β -Pinene	127-91-3	EC50	326 mg/l	microorganisms	3 h

Biodegradation

Not readily biodegradable.

12.2 Process of degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Thymol	89-83-8	biotic/abiotic	>80 %	28 d		
Thymol	89-83-8	oxygen depletion	83 %	28 d		ECHA
Carvacrol	499-75-2	oxygen depletion	18.1 %	28 d		ECHA
p-Cymene	99-87-6	oxygen depletion	88 %	14 d		ECHA

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Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Geraniol	106-24-1	DOC removal	90 – 100 %	3 d		ECHA
γ-Terpinene	99-85-4	oxygen depletion	27 %	28 d		ECHA
Linalool	78-70-6	oxygen depletion	40.9 %	5 d		ECHA
Geranyl acetate	105-87-3	oxygen depletion	>70 %	28 d		ECHA
β-Caryophyllene	87-44-5	oxygen depletion	10 %	28 d		ECHA
α-Terpineol	98-55-5	carbon dioxide generation	80 %	28 d	OECD Guideline 310	
Myrcene	123-35-3	oxygen depletion	76 %	28 d		ECHA
L-(-)-Limonene	5989-54-8	oxygen depletion	85 %	28 d		ECHA
DL-α-Pinene	80-56-8	oxygen depletion	68 %	28 d		ECHA
α-Terpinene	99-86-5	oxygen depletion	30 %	14 d		ECHA
Eucalyptol	470-82-6	carbon dioxide generation	82 %	28 d		ECHA
β-Pinene	127-91-3	oxygen depletion	76 %	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
Thymol	89-83-8	48	3.3	
Carvacrol	499-75-2		3.33 (40 °C)	
p-Cymene	99-87-6		4.8 (pH value: ~7, 20 °C)	
Geraniol	106-24-1		2.6 (25 °C)	
γ-Terpinene	99-85-4		5.4 (25 °C)	
Linalool	78-70-6		2.9 (pH value: 7, 20 °C)	
Geranyl acetate	105-87-3		4.04	
β-Caryophyllene	87-44-5		6.23 (pH value: 7, 25 °C)	
α-Terpineol	98-55-5		2.6 (30 °C)	
Myrcene	123-35-3		4.82 (pH value: ~6.5, 30 °C)	
L-(-)-Limonene	5989-54-8	864.8	4.38 (pH value: 7.2, 37 °C)	
DL-α-Pinene	80-56-8		4.83	

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Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Camphene	79-92-5		4.22 (pH value: 7.2, 37 °C)	
α -Terpinene	99-86-5		5.3 (35 °C)	
Eucalyptol	470-82-6		3.4	
(+)-Camphor	464-49-3		2.3 (20 °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

Not listed.

12.7 Other adverse effects

Data are not available.

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

H3 Flammable liquids
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.

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SECTION 14: Transport information

14.1 UN number

UN RTDG	UN 2924
IMDG-Code	UN 2924
ICAO-TI	UN 2924

14.2 UN proper shipping name

UN RTDG	FLAMMABLE LIQUID, CORROSIVE, N.O.S.
IMDG-Code	FLAMMABLE LIQUID, CORROSIVE, N.O.S.
ICAO-TI	Flammable liquid, corrosive, n.o.s.
Technical name	Oil of thyme

14.3 Transport hazard class(es)

UN RTDG	3 (8)
IMDG-Code	3 (8)
ICAO-TI	3 (8)

14.4 Packing group

UN RTDG	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

hazardous to the aquatic environment

14.6 Special precautions for user

There is no additional information.

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

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)

UN number	2924
Class	3
Subsidiary risk(s)	8
Environmental hazards	Yes Hazardous to the aquatic environment
Packing group	III
Danger label(s)	3+8 Fish and tree





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Special provisions (SP)	223, 274 UN RTDG
Excepted quantities (EQ)	E1 UN RTDG
Limited quantities (LQ)	5 L UN RTDG
International Maritime Dangerous Goods Code (IMDG) - Additional information	
Proper shipping name	FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Particulars in the shipper's declaration	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (Oil of thyme), 3 (8), III, 53°C c.c., MARINE POLLUTANT
Marine pollutant	yes (hazardous to the aquatic environment)
Danger label(s)	3+8, "Fish and tree"
	
Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, S-C
Stowage category	A
International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information	
Proper shipping name	Flammable liquid, corrosive, n.o.s.
Particulars in the shipper's declaration	UN2924, Flammable liquid, corrosive, n.o.s., (Oil of thyme), 3 (8), III
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	3+8
	
Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 L

SECTION 15: Regulatory information

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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

Substance is listed.

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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	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
NZ	NZIoC	substance is listed
TW	TCSI	substance is listed

Legend

AICS	Australian Inventory of Chemical Substances
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
NZIoC	New Zealand Inventory of Chemicals
TCSI	Taiwan Chemical Substance Inventory

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
Asp. Tox.	Aspiration hazard
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
Eye Irrit.	Irritant to the eye

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Abbr.	Descriptions of used abbreviations
Flam. Liq.	Flammable liquid
Flam. Sol.	Flammable solid
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
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
STOT SE	Specific target organ toxicity - single exposure
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).

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

Code	Text
H226	Flammable liquid and vapour.
H227	Combustible liquid.
H228	Flammable solid.
H302	Harmful if swallowed.

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Code	Text
H304	May be fatal if swallowed and enters airways.
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.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361f	Suspected of damaging fertility (if exposed).
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child (if exposed).
H371	May cause damage to organs.

Disclaimer

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