according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Oil of valerian, all-natural

article number: **6588**Version: **3.0 en**date of compilation: 2020-02-11

Revision: 2024-03-04

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Version: (2)

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

1.1 Product identifier

Identification of the substance Oil of valerian , all-natural

Article number 6588

Registration number (REACH)

It is not required to list the identified uses be-

cause the substance is not subject to registration

according to REACH (< 1 t/a).

EC number 232-501-7
CAS number 8057-49-6

Alternative name(s) Oleum Valerianae

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

sicherheit@carlroth.de

Uses advised against: Do not use for products which come into contact

with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-

stuffs.

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 Department Health, Safety and Environment

sheet:

1.4

note

e-mail (competent person): Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	+353 1 809 2166	https:// www.poisons.ie/

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.45	Skin sensitisation	1	Skin Sens. 1	H317
3.10	Aspiration hazard	1	Asp. Tox. 1	H304
4.1A	Hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	Hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word Danger

Pictograms

GHS07, GHS08, GHS09







Hazard statements

H304 May be fatal if swallowed and enters airways

H317 May cause an allergic skin reaction

H410 Very toxic to aquatic life with long lasting effects

Precautionary statements

Precautionary statements - prevention

P273 Avoid release to the environment

Precautionary statements - response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor

P302+P352 IF ON SKIN: Wash with plenty of soap and water

P331 Do NOT induce vomiting

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Symbol(s)







H304 May be fatal if swallowed and enters airways. H317 May cause an allergic skin reaction.

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P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P331 Do NOT induce vomiting.

2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

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

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of \geq 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

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

Name of substance Oil of valerian

CAS No 8057-49-6

EC No 232-501-7

Impurities/additives/constituents:

Name of substance	Identifier	Wt%
Camphene	CAS No 79-92-5	10 – < 25
	EC No 201-234-8	
DL-α-Pinene	CAS No 80-56-8	5 - < 10
	EC No 201-291-9	
DL-Borneol	CAS No 507-70-0	1-<5
	EC No 208-080-0	
ß-Pinene	CAS No 127-91-3	1-<5
	EC No 204-872-5	
DL-Limonene	CAS No 138-86-3	1-<5
	EC No 205-341-0	
	Index No 601-029-00-7	

Substance, Specific Conc. Limits, M-factors, ATE

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	M-factor (chronic) = 10	-	

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Remarks

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.

Following skin contact

After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

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, 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 (CO_2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂), May produce toxic fumes of carbon monoxide if burning.

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5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. 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

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

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.

Measures to protect the environment

Avoid release to the environment.

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.

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Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

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

Name of sub- stance	CAS No	End- point	Threshol d level	Protection goal, route of exposure	Used in	Exposure time
Camphene	79-92-5	DNEL	110,2 mg/ m³	human, inhalat- ory	worker (industry)	chronic - systemic effects
Camphene	79-92-5	DNEL	110,2 mg/ m³	human, inhalat- ory	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
DL-α-Pinene	80-56-8	DNEL	3,8 mg/m ³	human, inhalat- ory	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
ß-Pinene	127-91-3	DNEL	5,69 mg/ m³	human, inhalat- ory	worker (industry)	chronic - systemic effects
ß-Pinene	127-91-3	DNEL	0,8 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
ß-Pinene	127-91-3	DNEL	54 μg/cm²	human, dermal	worker (industry)	chronic - local ef- fects
DL-Borneol	507-70-0	DNEL	17,63 mg/ m³	human, inhalat- ory	worker (industry)	chronic - systemic effects
DL-Borneol	507-70-0	DNEL	10 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components

Name of sub- stance	CAS No	End- point	Threshol d level	Organism	Environmental compartment	Exposure time
Camphene	79-92-5	PNEC	0,001 ^{mg} / _l	aquatic organ- isms	freshwater	short-term (single instance)
Camphene	79-92-5	PNEC	0 ^{mg} / _l	aquatic organ- isms	marine water	short-term (single instance)

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Relevant PNECs of components

Relevant PNECs of components								
CAS No	End- point	Threshol d level	Organism	Environmental compartment	Exposure time			
79-92-5	PNEC	10 ^{mg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)			
79-92-5	PNEC	0,026 ^{mg} / kg	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)			
79-92-5	PNEC	0,003 ^{mg} / kg	aquatic organ- isms	marine sediment	short-term (single instance)			
79-92-5	PNEC	0,021 ^{mg} / kg	terrestrial organ- isms	soil	short-term (single instance)			
80-56-8	PNEC	0,606 ^{µg} / _I	aquatic organ- isms	freshwater	short-term (single instance)			
80-56-8	PNEC	0,061 ^{µg} / _l	aquatic organ- isms	marine water	short-term (single instance)			
80-56-8	PNEC	0,2 ^{mg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)			
80-56-8	PNEC	157 ^{µg} / _{kg}	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)			
80-56-8	PNEC	15,7 ^{µg} / _{kg}	aquatic organ- isms	marine sediment	short-term (single instance)			
80-56-8	PNEC	31,7 ^{µg} / _{kg}	terrestrial organ- isms	soil	short-term (single instance)			
127-91-3	PNEC	1,004 ^{µg} / _l	aquatic organ- isms	freshwater	short-term (single instance)			
127-91-3	PNEC	0,1 ^{µg} / _l	aquatic organ- isms	marine water	short-term (single instance)			
127-91-3	PNEC	3,26 ^{mg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)			
127-91-3	PNEC	0,337 ^{mg} / kg	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)			
127-91-3	PNEC	0,034 ^{mg} / kg	aquatic organ- isms	marine sediment	short-term (single instance)			
127-91-3	PNEC	0,067 ^{mg} / kg	terrestrial organ- isms	soil	short-term (single instance)			
507-70-0	PNEC	1,71 ^{µg} / _l	aquatic organ- isms	freshwater	short-term (single instance)			
507-70-0	PNEC	0,171 ^{µg} / _l	aquatic organ- isms	marine water	short-term (single instance)			
507-70-0	PNEC	1 ^{mg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)			
507-70-0	PNEC	0,139 ^{mg} / kg	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)			
507-70-0	PNEC	0,017 ^{mg} / kg	aquatic organ- isms	marine sediment	short-term (single instance)			
507-70-0	PNEC	0,013 ^{mg} / kg	terrestrial organ- isms	soil	short-term (single instance)			
	79-92-5 79-92-5 79-92-5 79-92-5 80-56-8 80-56-8 80-56-8 80-56-8 127-91-3 127-91-3 127-91-3 127-91-3 127-91-3 507-70-0 507-70-0 507-70-0	79-92-5 PNEC 79-92-5 PNEC 79-92-5 PNEC 79-92-5 PNEC 80-92-5 PNEC 80-56-8 PNEC 80-56-8 PNEC 80-56-8 PNEC 80-56-8 PNEC 80-56-8 PNEC 127-91-3 PNEC 127-91-3 PNEC 127-91-3 PNEC 127-91-3 PNEC 127-91-3 PNEC 127-91-3 PNEC 507-70-0 PNEC 507-70-0 PNEC 507-70-0 PNEC	point d level 79-92-5 PNEC 10 mg/ _I 79-92-5 PNEC 0,026 mg/ _{kg} 79-92-5 PNEC 0,003 mg/ _{kg} 79-92-5 PNEC 0,021 mg/ _{kg} 80-56-8 PNEC 0,606 μg/ _I 80-56-8 PNEC 0,061 μg/ _I 80-56-8 PNEC 157 μg/ _{kg} 80-56-8 PNEC 15,7 μg/ _{kg} 80-56-8 PNEC 31,7 μg/ _{kg} 127-91-3 PNEC 1,004 μg/ _I 127-91-3 PNEC 0,1 μg/ _I 127-91-3 PNEC 0,337 mg/ _{kg} 127-91-3 PNEC 0,034 mg/ _{kg} 127-91-3 PNEC 0,067 mg/ _{kg} 507-70-0 PNEC 1,71 μg/ _I 507-70-0 PNEC 0,171 μg/ _I 507-70-0 PNEC 0,139 mg/ _{kg} 507-70-0 PNEC 0,017 mg/ _{kg} 507-70-0 PNEC 0,017 mg/ _{kg} 507-70-0 PNEC 0,017 mg/ _{kg}	point d level 79-92-5 PNEC 10 mg/ _I aquatic organisms 79-92-5 PNEC 0,026 mg/ _{kg} aquatic organisms 79-92-5 PNEC 0,003 mg/ _{kg} aquatic organisms 80-56-8 PNEC 0,606 μg/ _I aquatic organisms 80-56-8 PNEC 0,606 μg/ _I aquatic organisms 80-56-8 PNEC 0,061 μg/ _I aquatic organisms 80-56-8 PNEC 157 μg/ _{kg} aquatic organisms 80-56-8 PNEC 15,7 μg/ _{kg} aquatic organisms 80-56-8 PNEC 1,004 μg/ _I aquatic organisms 127-91-3 PNEC 1,004 μg/ _I aquatic organisms 127-91-3 PNEC 0,1 μg/ _I aquatic organisms 127-91-3 PNEC 0,326 mg/ _I aquatic organisms 127-91-3 PNEC 0,337 mg/ _{kg} aquatic organisms 127-91-3 PNEC 0,034 mg/ _{kg} aquatic organisms 507-70-0 PNEC 0,067 mg/ _{kg} terrestrial organisms 507-70-0 PNEC 0,171 μg/ _I aquatic organisms 507-70-0 PNEC 0,171 μg/ _I aquatic organisms 507-70	point d level compartment 79-92-5 PNEC 10 mg/ ₁ aquatic organisms sewage treatment plant (STP) 79-92-5 PNEC 0,026 mg/ _{kg} aquatic organisms freshwater sediment 79-92-5 PNEC 0,003 mg/ _{kg} aquatic organisms soil 80-56-8 PNEC 0,606 μg/ ₁ aquatic organisms freshwater 80-56-8 PNEC 0,061 μg/ ₁ aquatic organisms sewage treatment plant (STP) 80-56-8 PNEC 0,2 mg/ ₁ aquatic organisms freshwater sediment 80-56-8 PNEC 157 μg/ _{kg} aquatic organisms freshwater sediment 80-56-8 PNEC 15,7 μg/ _{kg} aquatic organisms soil 80-56-8 PNEC 15,7 μg/ _{kg} aquatic organisms soil 80-56-8 PNEC 15,7 μg/ _{kg} terrestrial organisms soil 127-91-3 PNEC 1,004 μg/ _l aquatic organisms freshwater 127-91-3 PNEC 0,1 μg/ _l aquatic organisms sewage treatment plant (STP)			

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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: acrylonitrile-butadiene rubber

material thickness

≥0,5 mm

· breakthrough times of the glove material

>10 minutes (permeation: level 1), >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.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state liquid

Colour clear - light yellow - light brown

Odour characteristic

Melting point/freezing point not determined

Boiling point or initial boiling point and boiling not determined

range

Flammability this material is combustible, but will not ignite

readily

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 not determined

Partition coefficient

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

Vapour pressure not determined

Density and/or relative density

Density $\sim 0.97 \, \mathrm{g/_{cm^3}}$ 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 acc. to GHS (physical hazards): not relevant

Other safety characteristics:

Refractive index 1,47 – 1,48 (20 °C)

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SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

If heated

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

There are no specific conditions known which have to be avoided.

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 hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components

•					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
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
ß-Pinene	127-91-3	oral	LD50	4.700 ^{mg} / _{kg}	rat
DL-Limonene	138-86-3	oral	LD50	5.300 ^{mg} / _{kg}	rat
DL-Borneol	507-70-0	oral	LD50	1.310 ^{mg} / _{kg}	mouse
DL-Borneol	507-70-0	dermal	LD50	>2.000 ^{mg} / _{kg}	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

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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

If swallowed

aspiration hazard

• If in eyes

Data are not available.

If inhaled

Data are not available.

• If on skin

May produce an allergic reaction, pruritis, localised redness

Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of \geq 0,1%.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components								
Name of sub- stance	CAS No	Endpoint	Value	Species	Exposure time			
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			
DL-α-Pinene	80-56-8	LC50	0,303 ^{mg} / _l	fish	96 h			

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Aquatic toxicity (acute) of components

•	<u> </u>				
Name of sub- stance	CAS No	Endpoint	Value	Species	Exposure time
DL-α-Pinene	80-56-8	EC50	0,475 ^{mg} / _l	aquatic invertebrates	48 h
ß-Pinene	127-91-3	LC50	0,68 ^{mg} / _l	rainbow trout (Onco- rhynchus mykiss)	96 h
ß-Pinene	127-91-3	EC50	1,09 ^{mg} / _l	daphnia magna	48 h
ß-Pinene	127-91-3	ErC50	0,7 ^{mg} / _l	Pseudokirchneriella subcapitata	72 h
DL-Limonene	138-86-3	EC50	17 ^{mg} / _l	daphnia magna	48 h
DL-Limonene	138-86-3	LC50	80 ^{mg} / _l	rainbow trout (Onco- rhynchus mykiss)	96 h
DL-Borneol	507-70-0	LC50	33,25 ^{mg} / _l	fish	96 h
DL-Borneol	507-70-0	EC50	4,23 ^{mg} / _l	aquatic invertebrates	48 h
DL-Borneol	507-70-0	ErC50	1,71 ^{mg} / _l	algae	72 h

Aquatic toxicity (chronic) of components

Name of sub- stance	CAS No	Endpoint	Value	Species	Exposure time
Camphene	79-92-5	EC50	>1.000 ^{mg} / _l	microorganisms	3 h
ß-Pinene	127-91-3	EC50	326 ^{mg} / _l	microorganisms	3 h
DL-Borneol	507-70-0	EC50	>100 ^{mg} / _l	microorganisms	3 h

12.2 Persistence and degradability

Degradability of components

3									
Name of substance	CAS No	Process	Degrada- tion rate	Time	Method	Source			
DL-α-Pinene	80-56-8	oxygen deple- tion	68 %	28 d		ECHA			
ß-Pinene	127-91-3	oxygen deple- tion	76 %	28 d		ECHA			
DL-Borneol	507-70-0	carbon dioxide generation	85 %	28 d		ECHA			

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulat	ive pot	ential of	f compon	ents
--------------	---------	-----------	----------	------

Bioaccamaiative potentie	Dioaccamalative potential of components			
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Camphene	79-92-5		4,22 (pH value: 7,2, 37 °C)	
DL-α-Pinene	80-56-8		4,83	
DL-Limonene	138-86-3		4,57	

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Bioaccumulative potential of components

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
DL-Borneol	507-70-0		3,6 (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

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0.1\%$.

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. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous

HP 5 specific target organ toxicity (STOT)/aspiration toxicity

HP 13 sensitising

HP 14 ecotoxic

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. Non-contaminated packages may be recycled.

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SECTION 14: Transport information

14.1 UN number or ID number

ADRRID UN 3082
IMDG-Code UN 3082
ICAO-TI UN 3082

14.2 UN proper shipping name

ADRRID ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

IMDG-Code ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

ICAO-TI Environmentally hazardous substance, liquid,

n.o.s.

Technical name Oil of valerian

14.3 Transport hazard class(es)

ADRRID 9
IMDG-Code 9
ICAO-TI 9

14.4 Packing group

ADRRID III
IMDG-Code III
ICAO-TI III

14.5 Environmental hazards hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime 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

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

Particulars in the transport document UN3082, ENVIRONMENTALLY HAZARDOUS SUB-

STANCE, LIQUID, N.O.S., (Oil of valerian), 9, III, (-)

Classification code M6

Danger label(s) 9, "Fish and tree"



Environmental hazards yes (hazardous to the aquatic environment)

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Special provisions (SP) 274, 335, 375, 601

Excepted quantities (EQ) E1
Limited quantities (LQ) 5 L
Transport category (TC) 3

Tunnel restriction code (TRC) Hazard identification No 90

Tiazara facitameatori No

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information

. . . .

Classification code M6

Danger label(s) 9, "Fish and tree"

Environmental hazards Yes

Hazardous to water

Special provisions (SP) 274, 335, 375, 601

Excepted quantities (EQ) E1
Limited quantities (LQ) 5 L
Transport category (TC) 3
Hazard identification No 90

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

Particulars in the shipper's declaration UN3082, ENVIRONMENTALLY HAZARDOUS SUB-

STANCE, LIQUID, N.O.S., (Oil of valerian), 9, III

Marine pollutant yes (hazardous to the aquatic environment), (Oil of valerian)

Danger label(s) 9, "Fish and tree"

Special provisions (SP) 274, 335, 969

Excepted quantities (EQ) E1
Limited quantities (LQ) 5 L
EmS F-A, S-F

Stowage category A

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., (Oil of valerian), 9, III

Environmental hazards yes (hazardous to the aquatic environment)

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Danger label(s) 9, "Fish and tree"



Special provisions (SP) A97, A158, A197, A215

Excepted quantities (EQ)

Limited quantities (LQ) 30 kg

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	Restriction	No
Oil of valerian	this product meets the criteria for classification in accordance with Reg- ulation No 1272/2008/EC		R3	3
Oil of valerian	substances in tattoo inks and permanent make-up		R75	75

Legend

1. Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,

- tricks and jokes,

- games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market.

 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume,
- can be used as fuel in decorative oil lamps for supply to the general public, and
 present an aspiration hazard and are labelled with H304.

- 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation
- (CEN).
 5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following require-
- (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil or even sucking the wick of lamps may lead to life-threatening lung damage"; (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage'; (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opposite some containers not exceeding 1 litre by 1 December 2010."
- opaque containers not exceeding 1 litre by 1 December 2010.';

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Legend

R75

1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:

(a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category

1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by

(c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;

(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:

(i) 0,1 % by weight, if the substance is used solely as a pH regulator

(ií) 0,01 % by weight, in all other cases;

(e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the

(f) in the case of a substance is the invalid in the legislation (EC) No 1223/2009 (17), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:

(i) "Rinse-off products";
(ii) "Not to be used in products applied on mucous membranes";
(iii) "Not to be used in eye products";

(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column; (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concen-

(n) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.

2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.

3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.

as also falls within one of more of points (a) to (g) of paragraph 1, the concentration limit faid down in point (ii) of paragraph 1 shall apply to that substance.

4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
(a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
(b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).

5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that now or revised classification in fifty the date referred to in paragraph 1 or as the case may be paragraph. plication of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.

6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the

amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.

7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:

(a) the statement "Mixture for use in tattoos or permanent make-up";

(a) the statement "Mixture for use in tattoos or permanent make-up";
(b) a reference number to uniquely identify the batch;
(c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
(d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;
(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;

tion limit specified in Appendix 13

(f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below

the concentration limit specified in Appendix 13; (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.

The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.

Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph. 8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for

tattooing purposes.

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9. This entry does not apply to substances that are gases at temperature of 20 $^{\circ}$ C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 $^{\circ}$ C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

Not listed.

Seveso Directive

2	2012/18/EU (Seveso III)				
	No	Dangerous substance/hazard categories	Qualifying quantity (to plication of lower an quireme		Notes
	E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100	200	56)

Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

Deco-Paint Directive

VOC content	100 %
VOC content	970 ⁹ / _I

Industrial Emissions Directive (IED)

VOC content	100 %
VOC content	970 ⁹ / ₁

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

not listed

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed

Regulation on substances that deplete the ozone layer (ODS)

not listed

Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

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Regulation on persistent organic pollutants (POP)

not listed

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	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
VN	NCI	substance is listed

Legend

Australian Inventory of Industrial Chemicals
Domestic Substances List (DSL)
EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China
National Chemical Inventory
New Zealand Inventory of Chemicals
Philippine Inventory of Chemicals and Chemical Substances (PICCS)
Taiwan Chemical Substance Inventory AIIC DSL **ECSI**

IECSC

NCI

NZIoC

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance. According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
15.1	VOC content: 100 % 970 ⁹ / _l	VOC content: 100 %	yes
15.1		VOC content: 970 ^g / _l	yes
15.1		National inventories: change in the listing (table)	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
15.2	Chemical Safety Assessment: No Chemical Safety Assessment has been car- ried out for this substance.	Chemical safety assessment: No Chemical Safety Assessment has been carried out for this substance. According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations	
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concer ing the International Carriage of Dangerous Goods by Road)	
ATE	Acute Toxicity Estimate	
BCF	Bioconcentration factor	
BOD	Biochemical Oxygen Demand	
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substance	
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures	
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 causir 50 % changes in response (e.g. on growth) during a specified time interval	
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an ide fier of substances commercially available within the EU (European Union)	
ED	Endocrine disruptor	
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	
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United N tions	
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	
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulatio (EC) No 1272/2008	

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Abbr.	Descriptions of used abbreviations
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
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). 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 section 2 and 3)

Code	Text
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Disclaimer

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

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