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MATERIAL SAFETY DATA SHEET

According to Regulation (EC) No 1272 of 2008 and
Regulation (EC) No 1907/2006 (REACH), as amended by Regulation (EU) 2020/878

Organic Geranium Oil

Version 02 Date of creation: 27.09.2019
Supersedes the version from: 27.09.2019 Date of new version: 31.05.2024

1. Identification of the substance/mixture and the company/undertaking

1.1. Product Identifiers

Product name	:	Natural Organic Geranium Oil
Substance name (INCI)	:	PELARGONIUM GRAVEOLENS OIL
Botanical name	:	Pelargonium graveolens L.
CAS No	:	90082-51-2
EO No	:	290-140-0
Biological origin	:	Pelargonium Graveolens Oil is volatile oil, produced by team distillation of the whole plant Geranium of the Bourbon type, Pelargonium graveolens (L.), Geraniaceae. The oil is of Indian origin.

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

Use of substance/mixture	:	For application in the area of Food industry, perfumery and cosmetics, independently or as a recipe component, a part of composition.
Recommended restrictions on use	:	Avoid eye contact!
Reason not to recommend use:		Causes serious eye damage!

1.3. Details of the supplier of the safety data sheet

Manufacturer **:** ALTEYA ORGANICS LLC
Mailing address/Postal code **: 6167,** village of Yagoda, 1, Rozovarna St.
Country identifier/
Postal code/city or town **:** Bulgaria
Telephone/Mobile/Fax **:** +359 700 15 502

E-mail of the competent person responsible for the Safety Data Sheet : salesbg@alteya.com
National contact person : Kaloyan Stoev

1.4. Emergency telephone number

Clinic of Toxicology at MPHATEM N.I. Pirogov
Emergency telephone number: 02 9154409; (regular working time, Saturdays and Sundays excluded) or 02 9154 346 (24h service, all week)
e-mail: poison_centre@mail.orbitel.bg
http//www.pirogov.net

2. Hazards Identification

2.1. Classification of the substance or mixture

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

Classification according to GHS				
Chapter	**Subsection**	**Class of hazard**	**Class of hazard and category of hazard**	**Hazard statements**
3.2	Skin	Skin irritation	Corrosion/irritation 2	H315
3.4	Sens.	Skin sensitization	(Skin sens 1)	H317
3.3	Eye	Eye irritation	(Corrosion)Damage/ Irritation. 1	H318
4.1	Chronic	Hazardous for aquatic life	Aquatic Chronic 2	H411

2.1.2. Additional information:

For full text of hazard statements and EC specific hazard statements: see SECTION 16.

2.2. Label Elements

Designation according Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms

GHS05 GHS07 GHS09

Signal word : Hazardous

Hazard statements : H315 Causes skin irritation.
H317 May cause allergic skin reaction.
H318 Causes serious eye damage.
H411 Toxic for aquatic life with long-lasting effect.
EUH 208 Contains: beta-Myrcene, 3-octanol, para-Cymene, Methyl Eugenol, alpha-Pinene, beta-Pinene, Limonene, Linalool, Menthol, Terpineol, Citronellol, Citral, Geraniol, Phenethyl Alcohol, Geranyl Acetate, Beta-Caryophyllene, 1,8 cineol, Isoeugenol. May cause allergic reaction.

Safety recommendations

Safety recommendations

- General	:	P101	If medical advice is needed, have product packaging or label at hand.
		P102	Keep out of reach of children
- Prevention	:	P273	Avoid release to the environment.
		P280	Use protective gloves/protective clothing /protective goggles/ protective facial mask.
- As a reaction	:	P305+ P351+ P338	If eye contact: Rinse thoroughly with water for several minutes. Remove contact lenses if there are such and if possible. Continue rinsing.
		P302 + P352	IF SKIN CONTACT: Wash with plenty of water/...
		P260	Do not inhale vapours/aerosols.
		P333 + P313	In case skin irritation or rash appears: Seek medical advice/help.
- In discharge	:	P405	Keep under lock and key.
		P501	Dispose of contents / container in an approved place and in compliance with the local and national regulations.

2.3. Other hazards

This material is flammable, but will not ignite easily.

Results of PBT and vPvB assessment

According to the assessment results, the substance is not PBT or vPvB.

3. Composition/information on ingredients

3.1. Substances/ Mixture

INGRIDIENT	*IDENTIFIERS*	*%*	*CLASSIFICATION*
PELARGONIUM GRAVEOLENS OIL	*EINECS NO: 290-140-0* *CAS NO: 90082-51-2*	*100,0*	 *DANGER* *Skin Irrit. Cat.2, H315* *Skin Sens. 1B H317* *Eye Irrit. 1, H318* *Aquatic Chronic 2 H411*
CITRONELLOL	*EINECS NO: 203-375-0 / 247-737-6 / 231-415-7 / 214-250-5* *CAS NO: 106-22-9 / 26489-01-0 / 7540-51-4 / 1117-61-9*	*35,0 – 40,0*	*Skin irrit, Cat. 2, H315* *Skin sens, Cat. 1, H317* *Aquatic Chronic 2,H411*
GERANIOL	*EINECS NO: 203-377-1* *CAS NO: 106-24-1*	*20,0 – 25,0*	*Skin Irrit. 2 – H315* *Eye Dam. 1 - H318*

			Skin Sens. 1 – H317
LINALOOL	*EINECS NO: 201-134-4* *CAS NO: 78-70-6*	*10,0 – 15,0*	*Eye Irrit. 2A (H319)* *Skin Sens. 1B (H317)* *Skin Irrit. 2 (H315)*
α-PINENE	*EINECS NO: 201-291-9* *CAS NO: 80-56-8*	*1,0 – 2,5*	*Flam. Liq. 3, H226* *Asp. Tox. 1, H304* *Skin Irrit. 2, H315* *Skin Sens. 1, H317* *Aquatic Acute 1; H400; M = 1* *Aquatic Chronic 1; H410; M = 1*
LIMONENE	*EINECS NO: 227-813-5* *CAS NO: 5989-27-5*	*1,0 – 2,5*	*Flam. Liq. 3 – H226* *Asp. Tox. 1 - H304* *Skin Irrit. 2 – H315* *Skin Sens. 1 – H317* *Aquatic Acute 1; H400; M = 1*
2-Phenylethanol (PHENETHYL ALCOHOL)	*EINECS NO: 200-456-2* *CAS NO: 60-12-8*	*1,0 – 2,5*	*Acute Tox Oral 4.; H302* *Eye .irrit, Cat. 2A; H319*
MENTHOL	*EINECS NO: 218-690-9* *CAS NO: 2216-51-5*	*1,0 – 2,5*	*Skin Irrit. 2 / H315* *Eye Irrit. 2 / H319*
BETA-CARYOPHYLLENE	*EINECS NO: 203-205-5* *CAS NO: 104-46-1*	*1,0 – 2,5*	*Asp. Tox. 1, H304* *Skin Sens. 1, H317*
beta-Pinene	*EINECS NO: 204-872-5* *CAS NO: 127-91-3*	*0,1 – 1,0*	*Flam. Liq. 3, H226* *Asp. Tox. 1, H304* *Skin Irrit. 2, H315* *Skin Sens. 1, H317* *Aquatic Acute 1; H400; M = 1* *Aquatic Chronic 1; H410; M = 1*
γ-Terpinene (GAMMA-TERPINENE)	*EINECS NO: 202-794-6* *CAS NO: 99-85-4*	*0,1 – 1,0*	*Flam. Liq. 3; H226* *Repr. 2; H361d* *Aquatic Chronic 2, H411*
P-CYMENE	*EINECS NO: 202-796-7* *CAS NO: 99-87-6*	*0,1 – 1,0*	*Flam. Liq. 3 – H226* *Skin Irrit. 2 – H315* *Eye Irrit. 2 - H319* *Asp. Tox. 1 - H304*
3-OCTANOL	*EINECS NO: 209-667-4* *CAS NO: 589-98-0*	*0,1 – 1,0*	*Skin Irrit. 2 – H315* *Eye Irrit. 2 - H319* *STOT SE 3, H335*
TERPINOLENE	*EINECS NO: 209-578-0* *CAS NO: 586-62-9*	*0,1 – 1,0*	*Asp. Tox. 1 - H304* *Skin Sens. 1, H317* *Aquatic Acute 1; H400; M = 1* *Aquatic Chronic 1; H410; M = 1*
cis-ROSE OXIDE	*EINECS NO: 240-457-5* *CAS NO: 16409-43-1*	*0,1 – 1,0*	*Skin Irrit. 2 (H315)* *Eye Irrit. 2A (H319)* *Repr.2 - H361*
TERPINEOL	*EINECS NO: 232-268-1/202-680-6/205-342-6/209-584-3* *CAS NO: 8000-41-7/98-55-*	*0,1 – 1,0*	*Skin Irrit. 2, H315* *Eye .irrit, Cat. 2A; H319*

	5/138-87-4/586-81-2		
GERANYL ACETATE	*EINECS NO: 203-341-5* *CAS NO: 105-87-3*	*0,1 – 1,0*	*Skin Irrit. Cat.2, H315* *Eye .irrit, Cat. 2A; H319* *Aquatic Chronic 4, H412*
BETA - MYRCENE	*EINECS NO: 204-622-5* *CAS NO: 123-35-3*	*< 0,3*	*Flam. Liq. 3 - H226* *Asp. Tox. 1, H304* *Skin Irrit. 2 – H315* *Eye Irrit. 2 - H319* *Aquatic Acute 1; H400; M = 1* *Aquatic Chronic 1; H410; M = 1*
1,8-CINEOLE	*EINECS NO: 207-431-5* *CAS NO: 470-82-6*	*< = 0,2*	*Flam. Liq. 3 - H226* *Skin Sens. 1, H317*
ALPHA-PHELLANDRENE	*EINECS NO: 202-792-5* *CAS NO: 99-83-2*	*< = 0,2*	*Flam. Liq. 3 – H226* *Asp. Tox. 1, H304*
METHYL EUGENOL	*EINECS NO: 202-223-0* *CAS NO: 93-15-2*	*0,1972*	*Acute Tox.4 H302* *Muta.2 H341* *Carc.2 H351* *Aquatic Chronic2 H411*
ISOEUGENOL	*EINECS NO: 202-590-7* *CAS NO: 97-54-1*	*< = 0,2*	*Acute Tox. 4; H302, H312* *Skin Irrit. 2; H315* *Eye Irrit. 2; H319* *Skin Sens.1A; H317* *STOT SE 3; H335*

Substance name	**Identifier**	**Specific concentration limits**	**M-Factors**	**ATE**	**Exposure route**
DL-α-pinene	CAS № 80-56-8	-	-	1.000 mg/kg	oral
Cis-rose-oxide	CAS № 3033-23-6	-	-	4300 mg/kg bw	oral
Isoeugenol	CAS № 5912-86-7	Skin Sens. 1A; H317; C ≥ 0.01%			

4. First Aid Measures

4.1. Description of first aid measures

General notes : Remove the contaminated clothing. In case of sickness seek medical advice (if possible show the label).

Following inhalation : Provide fresh air.

Following skin contact	:	Flush skin with water/take a shower. After skin contact, wash immediately with plenty of water. In case of skin reactions, consult a doctor.
Following eye contact	:	In case of contact with eyes, rinse immediately with open eyelids for 10 to 15 minutes under running water and seek an ophthalmologist.
Following ingestion	:	Rinse the mouth. Call a doctor if you feel unwell.

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

Notes	:	Vomiting, Risk of blindness, Risk of serious eye damage, Irritation, Allergic reactions

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

Treatment	:	Treat symptomatically.

5. Fire-fighting Measures

5.1. Extinguishing media

Suitable extinguishing media	:	Coordinate fire-fighting measures. Water splashes, dry powder for extinguishing, BC-powder, carbon dioxide (CO_2)
Unsuitable extinguishing media	:	Water – strong jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products	:	Combustible.
Hazardous products of combustion	:	Carbon monoxide (CO), carbon dioxide (CO_2). Burning may release poisonous gases containing carbon monoxide.

5.3. Advice for firefighters:

Special protective equipment for firefighters	:	Do not inhale smoke in case of fire and/or explosion. Do not allow water from extinguishing to enter drains or water sources. Extinguish the fire with the usual precautions from a reasonable distance. Wear a self-contained breathing apparatus.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For personnel not responsible for emergencies

Avoid product contact with skin, eyes and clothing. Do not inhale the vapour/aerosol.

For firefighters: firefighters to be equipped with appropriate personal protective equipment (see SECTION 8).
High temperature may increase pressure in container - cool container by spraying water. Avoid inhaling vapours released.

6.1.2. For the persons responsible for emergencies

Personal precautions	:	Maintain good occupational and personal hygiene. Avoid inhalation of product vapors and contact with skin, eyes and clothing.

6.2. Environmental precautions

Environmental precautions	:	Protect against contamination of drains, surface and ground water. Save the contaminated water for flushing and discard it. If the substance is got into water sources or drains, inform the responsible authority.

6.3. Methods and materials for containment and cleaning up

6.3.1.	For containment	:	Absorb mechanically with a binder (sand, diatomaceous earth, acid binder or universal).
6.3.2.	For cleanup	:	Place in appropriate disposal containers. Ventilate the 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. Waste disposal: see SECTION 13.

7. Handling and Storage

7.1. Precautions for safe handling

Precautions	:	Provide adequate ventilation. Handle in accordance with of the good occupational hygiene and safety rules. Avoid accidental contact with skin surfaces. Wear appropriate protective clothing. Avoid inhalation. Avoid

contact with eyes. Always wash hands after handling. Remove and wash contaminated clothing before re-use.

Fire-fighting measures	:	Store away from ignition sources. Do not smoke.
Measures to avoid transformation into aerosols and powder	:	Provide adequate ventilation.
Hygiene measures	:	Wash your hands before breaks and at the end of the working day. Avoid eye and skin contact.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions	:	Store the product in full and tightly closed containers away from heat, light and other ignition sources at a temperature of 15-25˚C. To store the oil for a shorter periods of time containers of galvanized sheet metal should be used and for longer period storage – glass containers or containers with varnish coating of the inner surface.
Incompatible materials	:	Do not store in close proximity to heat, sparks, open flame, strong acids. Keep container tightly closed when not in use.
Packing materials	:	Always store in packaging allowing preserving the integrity and quality of the product.
Storage class	:	No information available
Additional information on storage conditions	:	No information available.
Recommendations for fire and explosion protection	:	Keep away from ignition sources and open flames.
Recommendations for primary storage	:	Follow good manufacturing practices and production hygiene practices, such as ensuring adequate ventilation in the workplace. Maintain good personal hygiene and do not eat, drink or smoke while working.

It is recommended to observe the conditions of packing and storage according to БДС ISO 210:2023.

7.3. Specific end use(s)

Recommendations	:	Before using read the label.
Solutions specific to the industry sector	:	No information available.
Specific use(s)	:	For application in the Food industry, perfumery and cosmetics, independently or as a recipe component, a part of composition.
Additional information:		Follow the regulation relative to the application: • Therapeutic Products Act in case they are advertised as medications and medical products (medicinal effects; health effects). • Food Law and its regulations if advertised as dietary Supplement • The cosmetics product regulations if advertised as cosmetics (for instance perfume, highly diluted essential oils for use on the body as massage oils or bath supplements). • Feed Ordinance if they are advertised as a feed additive. • Biocides Ordinance if advertised as insect repellants. • In all other cases they are subject to Chemicals Ordinance.

8. Exposure controls/Personal protection equipment

8.1. Control parameters

Other occupational exposure limits

Information on monitoring procedures

Relevant DNEL-/DMEL-/PNEC and other threshold levels

Linalool

DNEL 2,8 mg/m³ human, inhalation industrial worker chronic - systemic effects
DNEL 16,5 mg/m³ human, inhalation industrial worker acute - systemic effects
DNEL 2,5 mg/kg bw/day human, dermal industrial worker chronic - systemic effects
DNEL 5 mg/kg bw/day human, dermal industrial worker acute - systemic effects

α-Pinene

GB cycloalkanes (>C7) 80-56-8 WEL 800 EH40/2005

beta-Pinene

DNEL 5,69 mg/m³ human, inhalatory worker (industry) chronic - systemic effects

DNEL 0,8 mg/kg bw/day human, dermal worker (industry) chronic - systemic effects
DNEL 54 µg/cm² human, dermal worker (industry) chronic – local effects

Geranyl acetate 105-87-3
Geranyl acetate 105-87-3 DNEL 62.59 mg/m³ 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

***(R)-p-Mentha-1,8-diene** - Index: NA, CAS: 5989-27-5, EC No: 227-813-5*
TLV TWA - TLV STEL- VLE 8h- VLE short: None.

Menthol
DNEL 132 mg/m³ human, inhalation industrial worker chronic - systemic effects
DNEL 10 mg/m³ human, inhalation industrial worker chronic - local effects
DNEL 10 mg/m³ human, inhalation industrial worker acute - local effects
Relevant DNEL- mixture components
DNEL 19 mg/kg bw/day, human, dermal industrial worker chronic - systemic effects

Citral
DNEL 9 mg/m³ human, inhalation industrial worker chronic - systemic effects
DNEL 1,7 mg/kg bw/day, human, dermal industrial worker chronic - systemic effects
DNEL 140 µg/cm² human, dermal industrial worker chronic - local effects

(±)-ß-Citronellol 106-22-9
(±)-ß-Citronellol 106-22-9 DNEL 161.6 mg/m³ human, inhalatory worker (industry) chronic - systemic effects
(±)-ß-Citronellol 106-22-9 DNEL 10 mg/m³ human, inhalatory worker (industry) chronic - local effects
(±)-ß-Citronellol 106-22-9 DNEL 10 mg/m³ human, inhalatory worker (industry) acute - local effects
(±)-ß-Citronellol 106-22-9 DNEL 327.4 mg/kg bw/day human, dermal worker (industry) chronic - systemic effects
(±)-ß-Citronellol 106-22-9 DNEL 2,950 µg/cm² human, dermal worker (industry) acute - local effects

Geraniol
DNEL 161,6 mg/m³ human, inhalation industrial worker chronic - systemic effects
DNEL 12,5 mg/kg bw/day, human, dermal industrial worker chronic - systemic effects
DNEL 11.800 µg/cm² human, dermal industrial worker chronic - local effects

α-Terpinene
DNEL 2.939 mg/m³ human, inhalatory worker (industry) chronic - systemic effects
DNEL 0.833 mg/kg bw/day human, dermal worker (industry) chronic - systemic effects

γ-Terpinene
γ-Terpinene 99-85-4 DNEL 2,939 mg/m³ 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

Neral
neral 106-26-3 DNEL 9 mg/m³ human, inhalatory worker (industry) chronic - systemic effects
neral 106-26-3 DNEL 1,7 mg/kg bw/day human, dermal worker (industry) chronic - systemic effects
neral 106-26-3 DNEL 140 µg/cm² human, dermal industrial worker chronic - local effects

1,8 cineol
eucalyptol 470-82-6 DNEL 7,05 mg/m³ human, inhalatory worker (industry) chronic - systemic effects
eucalyptol 470-82-6 DNEL 2 mg/kg bw/day human, dermal worker (industry) chronic - systemic effects

Relevant PNEC- and other threshold levels

Geraniol
PNEC 0,011 mg/l aquatic organisms freshwater short-term (instant)
PNEC 0,001 mg/l aquatic organisms marine water short-term (instant)
PNEC 0,7 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
PNEC 0,115 mg/kg aquatic organisms freshwater sediment short-term (instant)
PNEC 0,011 mg/kg aquatic organisms marine sediment short-term (instant)
PNEC 0,017 mg/kg terrestrial organisms soil short-term (instant)

Linalool
PNEC 0,2 mg/l aquatic organisms freshwater short-term (instant)
PNEC 0,02 mg/l aquatic organisms marine short-term (instant)
PNEC 10 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
PNEC 2,22 mg/kg aquatic organisms sediments freshwater short-term (instant)
PNEC 0,222 mg/kg aquatic organisms marine sediments short-term (instant)
PNEC 0,327 mg/kg terrestrial organisms soil short-term (instant)

Limonene
PNEC 14 µg/l aquatic organisms freshwater short-term (instant)
PNEC 1,4 µg/l aquatic organisms marine water short-term (instant)
PNEC 1,8 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
PNEC 3,85 mg/kg aquatic organisms freshwater sediment short-term (instant)
PNEC 0,385 mg/kg aquatic organisms marine sediment short-term (instant)
PNEC 0,763 mg/kg terrestrial organisms soil short-term (instant)

alpha-Pinene
DL-α-pinene 80-56-8 PNEC 0,606 µg/l aquatic organisms freshwater short-term (instant)
DL-α- pinene 80-56-8 PNEC 0,061 µg/l aquatic organisms marine water short-term (instant)

DL-α- pinene 80-56-8 PNEC 0,2 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
DL-α- pinene 80-56-8 PNEC 157 µg/kg aquatic organisms freshwater sediment short-term (instant)
DL-α- pinene 80-56-8 PNEC 15,7 µg/kg aquatic organisms marine sediment short-term (instant)
DL-α- pinene 80-56-8 PNEC 31,7 µg/kg terrestrial organisms soil short-term (instant)

beta-Pinene
PNEC 1,004 µg/l aquatic organisms freshwater short-term (single instance)
PNEC 0,1 µg/l aquatic organisms marine water short-term (single instance)
PNEC 3,26 mg/l aquatic organisms sewage treatment plant (STP) short-term (single instance)
PNEC 0,337 mg/kg aquatic organisms freshwater sediment short-term (single instance)
PNEC 0,034 mg/kg aquatic organisms marine sediment short-term (single instance)
PNEC 0,067 mg/kg terrestrial organisms soil short-term (single instance)

Menthol
PNEC 15,6 µg/l aquatic organisms freshwater short-term (instant)
PNEC 1,56 µg/l aquatic organisms marine water short-term (instant)
PNEC 2,37 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
PNEC 289 µg/kg aquatic organisms freshwater sediment short-term (instant)
PNEC 28,9 µg/kg aquatic organisms marine sediment short-term (instant)
PNEC 48,4 µg/kg terrestrial organisms soil short-term (instant)

Citral
PNEC 0,007 mg/l aquatic organisms freshwater short-term (instant)
PNEC 0,001 mg/l aquatic organisms marine water short-term (instant)
PNEC 1,6 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
PNEC 0,125 mg/kg aquatic organisms freshwater sediment short-term (instant)
PNEC 0,013 mg/kg aquatic organisms marine sediment short-term (instant)
PNEC 0,021 mg/kg terrestrial organisms soil short-term (instant)

(±)-ß-Citronellol 106-22-9
(±)-ß-Citronellol 106-22-9 PNEC 0.002 mg/l aquatic organisms freshwater short-term (single instance)
(±)-ß-Citronellol 106-22-9 PNEC 0 mg/l aquatic organisms marine water short-term (single instance)
(±)-ß-Citronellol 106-22-9 PNEC 580 mg/l aquatic organisms sewage treatment plant (STP) short-term (single instance)
(±)-ß-Citronellol 106-22-9 PNEC 0.026 mg/kg aquatic organisms freshwater sediment short-term (single instance)
(±)-ß-Citronellol 106-22-9 PNEC 0.003 mg/kg aquatic organisms marine sediment short-term (single instance)
(±)-ß-Citronellol 106-22-9 PNEC 0.004 mg/kg terrestrial organisms soil short-term (single instance)

Geranyl acetate 105-87-3
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
PNEC 68 µg/l aquatic organisms freshwater short-term (single instance)
PNEC 6,8 µg/l aquatic organisms marine water short-term (single instance)
PNEC 2,6 mg/l aquatic organisms sewage treatment plant (STP) short-term (single instance)
PNEC 1,85 mg/kg aquatic organisms freshwater sediment short-term (single instance)
PNEC 0,185 mg/kg aquatic organisms marine sediment short-term (single instance)
PNEC 0,329 mg/kg terrestrial organisms soil short-term (single instance)

γ-Terpinene
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)
γ-Terpinene 99-85-4 PNEC 0,423 mg/kg terrestrial organisms soil short-term (single instance)

Neral
neral 106-26-3 PNEC 0,007 mg/l aquatic organisms freshwater short-term (instant)
neral 106-26-3 PNEC 0,001 mg/l aquatic organisms marine water short-term (instant)
neral 106-26-3 PNEC 1,6 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
neral 106-26-3 PNEC 0,125 mg/kg aquatic organisms freshwater sediment short-term (instant)
neral 106-26-3 PNEC 0,013 mg/kg aquatic organisms marine sediment short-term (instant)
neral 106-26-3 PNEC 0,021 mg/kg terrestrial organisms soil short-term (instant)

1,8 cineol
eucalyptol 470-82-6 PNEC 57 µg/l aquatic organisms freshwater short-term (instant)
eucalyptol 470-82-6 PNEC 5,7 µg/l aquatic organisms marine water short-term (instant)

eucalyptol 470-82-6 PNEC 10 mg/l aquatic organisms sewage treatment plant (STP) short-term (instant)
eucalyptol 470-82-6 PNEC 1,425 mg/kg aquatic organisms freshwater sediment short-term (instant)
eucalyptol 470-82-6 PNEC 0,142 mg/kg aquatic organisms marine sediment short-term (instant)
eucalyptol 470-82-6 PNEC 0,25 mg/kg terrestrial organisms soil short-term (instant)

8.2. Exposition controls

8.2.1. Appropriate engineering control

Measures related to the substance/mixture to prevent exposure during identified uses : The description of the appropriate exposition control measures refer to the specified in subsection 1.2 identified uses of the substance or the mixture.
Usually general or local exhaust ventilation is required to observe the limit(s) of exposure.

Eyes/face protection

Use safety masks with side protection.

Skin protection

Hand protection

Wear suitable gloves. Chemical protection gloves that have been tested in accordance with EN 374 are suitable. For special purposes, it is recommended to check the chemical resistance of the protective gloves, mentioned above, together with the supplier of these gloves. Times are approximate values from measurements at 22°C and constant contact. Elevated temperatures due to heated substances, body heat, etc. and reducing the effective layer thickness by stretching can result in the corresponding breakthrough time being reduction. If in doubt, contact the manufacturer. At approximately 1.5 times greater / less layer thickness, the corresponding drilling time is doubled / halved.
The data refer to the pure substance only.
When transferred to mixtures of substances, they can only be considered as a guide.

• *type of material NBR (Nitrile rubber)*
• *material thickness 0.3 mm*
• *glove material wear > 480 minutes (penetration: level 6)*

Other skin protection: Allow recovery periods for skin regeneration. Prophylactic skin protection (protective creams/ointments) is recommended.

8.2.1.1. Respiratory tract protection :

Respiratory protection is required in case of: Formation of aerosol mist. Type: A (against organic gases and vapours with boiling point > 65 °C, color code: Brown).

Environmental exposition controls

Basic guidelines : Protect against contamination of drains, surface water and ground water.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of aggregation	:	liquid
Appearance	:	easy flowing liquid
Color	:	pale yellow to greenish yellow
Odor	:	pleasant, strong, fresh, similar to roses odor with varying
Odor threshold	:	No data from our supplier on this matter
Melting point / Freezing point	:	<-20°C at 101.325 Pa (ECHA)
Boiling point or initial boiling point and duration of boiling	:	224,1°C at 101.325 Pa (ECHA)
Flammability	:	this material is combustible but will not ignite easily
Self-ignition temperature	:	240°C at 1.015 hPa (ECHA) (temperature of self-ignition (liquids and gases)

Explosivity	:	No information available
Lower and upper limit of explosivity	:	No information available.
Flash temperature	:	95ºC
Boiling point	:	No information available.
Decomposition temperature	:	Not applicable
pH	:	No information available
Solubility(ies)	:	Soluble in 1:3 v / v Ethanol 70%. Soluble in all respects in benzyl benzoate and vegetable oils. In mineral oils and propylene glycol, its solutions are opalescent.
Insoluble in	:	Water, glycerin
Partition coefficient n-octanol/ water (logarithmic value)	:	3,5 (25°C) (ECHA)
Vapor pressure	:	39,3 Pa at 24°C (ECHA)
Relative density	:	No information available
Characteristics of particles	:	Not applicable

9.2. Other information

Refractive index at n^{20}/d	:	1,4610 - 1.4700
Relative density at d^{20}	:	0.880 - 0.899
Optical rotation at °	:	-14.0° to -10.0°

No other information available.

9.2.1. Information on the classes of physical hazards

Note	:	No information available.

10. Stability and Reactivity

10.1. Reactivity

Note	:	This material is not reactive under normal conditions of environment.

When heated : Vapours may form explosive mixtures with air.

10.2. Chemical stability

Note : The material is resistant to temperature and pressure or in the usual environment and under the foreseeable conditions of storage and operation.

10.3. Possible hazardous reactions

Hazardous reactions : Reacts violently with: strong oxidizer.

10.4. Conditions to avoid

Conditions to avoid : Keep away from heat, direct sunlight, open flame, sparks. Do not store near sparks, naked flames, strong acids.

Thermal decomposition : No data available.

10.5. Incompatible materials

Materials to avoid : Strong acids, strong alkalis, strong oxidizers, strong reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products : No hazardous degradation products are expected under normal use. In case of combustion/explosion, gases are released which are hazardous to health.

11. Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Geranium oil
oral LD50 >5,000 mg/kg rat ECHA

Note : Not to be classified as acutely toxic

EUGENYL METHYL ETHER (METHYL EUGENOL) (CAS: 93-15-2)
Oral: LD50 = 810 mg/kg

dermal LD50 >2.025 mg/kg rabbit TOXNET

Menthol
oral LD50 3.300 mg/kg rat TOXNET
dermal LD50 >5.000 mg/kg rabbit TOXNET
inhalation (dust/mist) LC50 5.289 mg/m³/4h rat ECHA

Citral
oral LD50 6.800 mg/kg rat ECHA
dermal LD50 >2.000 mg/kg rat ECHA

CITRONELLOL (CAS: 106-22-9)
Oral: LD50 = 3450 mg/kg
Dermal: LD50 = 2650 mg/kg

Linalool 78-70-6 dermal LD50 2.200 mg/kg mouse
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 (rat): 6330 mg/kg; Oral LD50 (mouse): 8 gm/kg

D-LIMONENE (CAS:5989-27-5)
ORAL ROUTE: LD50= 4,400 - 5,10MG/KG
SPECIES : Rat

PHENYLETHYLALCOHOL (CAS: 60-12-8)
Oral: LD50 = 1610 mg/kg
Dermal: LD50 = 2500 mg/kg

beta-Myrcene
LD50 Oral - Rat - male - > 3.380 mg/kg
Notes: (ECHA)
Inhalation: No information available
LD50 Dermal - Rabbit- > 5.000 mg/kg
(OECD Test Guideline 402)

***GERANIOL** (CAS: 106-24-1)*
Oral: LD50 = 4200 mg/kg

para-Cymene
LD50 Oral - Rat – male and female - 4.750 mg/kg
Assessment of acute toxicity Inhalation - 4 h - 3 mg/l - vapor
(Assessment of acute toxicity)
Notes: (REGULATION (EC) № 1272/2008, Annex VI)
Assessment of acute toxicity Inhalation - 3 mg/l – vapor

(The assessment of acute toxicity according to Regulation (EU) No. 1272/2008)
LD50 Dermal - Rabbit - > 5.000 mg/kg, Notes: (ECHA)

Terpineol
oral LD50 4.300 mg/kg rat ECHA
dermal LD50 >2.000 mg/kg rat ECHA

γ-terpinene 99-85-4 oral LD50 >2.000 mg/kg rat
γ-terpinene 99-85-4 dermal LD50 >2.000 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

neral 106-26-3 oral LD50 6.800 mg/kg rat
neral 106-26-3 dermal LD50 >2.000 mg/kg rat

Beta-Caryophyllene
oral LD50 >5.000 mg/kg mouse ECHA

Isoeugenol
LD50 Oral - Rat - 1.560 mg/kg
Notes: Liver: Liver function test abnormal.
Nutritional and general metabolic: changes in: body temperature decreased. (RTECS)
Inhalation: No information available
Acute Toxicity Assessment Skin - 1.100,1 mg/kg (Expert Decision)

1,8 cineol
eucalyptol 470-82-6 oral LD50 2.480 mg/kg rat

Corrosion/Skin irritation

Menthol
Causes skin irritation.

Citral
Causes skin irritation.

Linalool (Cas:78-70-6)
Dermal Route:Ld50=5610mg/Kg
Species: Rabbit, Oecdguideline 402(Acute Dermal Toxicity)

Linalool (Cas:78-70-6)
Irritation: Average Score =1.85
Effect Observed: Erythema Score
Species: Rabbit
Duration Of Exposure : 24hoecdguideline 404 (Acute Dermal Irritation /Corrosion)

Citronellol
Skin – Rabbit
Result: irritating - 4 h
(OECD Test Guideline 404)

GERANIOL (CAS: 106-24-1)
LD50 (Rabbit) = > 5,000 mg/kg

D-LIMONENE (cas:5989-27-5)
oral route: ld50= > 5000mg/kg
species : rabbit

D-LIMONENE (cas:5989-27-5)
oral route: ld50= > 5,600 - 6000mg/kg
species : mouse

GERANYL ACETATE 105-87-3
Oral LD50 (rat): 6330 mg/kg; Oral LD50 (mouse): 8 gm/kg

Beta-Caryophyllene
oral LD50 >5.000 mg/kg mouse ECHA

beta-Myrcene
Skin - in vitro eye irritation test
Result: Irritating to skin. (EPISKIN Human Skin Test Model)

Terpineol
Causes skin irritation.

α-Terpinene 99-86-5
dermal LD50 >2,000 mg/kg rat ECHA

Isoeugenol
Skin - Rabbit
Result: Skin irritation
Notes: (RTECS)

Notes : Causes skin irritation.

Serious eye damage/irritation

Citronellol
Eye - Rabbit
Result: Eye irritation (OECD Test Guideline 405)

beta-Myrcene
Eye – Rabbit
Result: Eye irritation.
(OECD Test Guideline 405)

Geraniol
Causes serious eye damage.

Methyl eugenol
Causes serious eye irritation.

Menthol
Causes serious eye irritation.

Terpineol
Causes serious eye irritation.

Alpha-Terpineol
Causes serious eye irritation.

Result	:	Causes serious eye damage. May cause irreversible damage of eyes such as eye tissue damage or serious physical decay of vision that is not fully invertible in a period of 21 days. The serious damage of eyes is characterized with the destruction of cornea, and the permanent opacity of cornea and iritis.

Respiratory or skin sensitization

Citral
Maximization Test - Guinea Pig
Result: positive
(OECD Test Guideline 406)
Notes: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
May cause allergic skin reaction

Citronellol
Local lymph node assay (LLNA) - Mouse
Result: positive (OECD Test Guideline 429)

Beta-Caryophyllene
Local lymph node assay (LLNA) - Guinea pig Result: positive (OECD Test Guideline 429)
May cause allergic skin reaction

Geraniol
Guinea Pig - sensitisation by skin contact is possible.

ISOEUGENOL
Maximization Test - Guinea Pig
Result: positive
(OECD Test Guideline 406)
Notes: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Beta-Caryophyllene
Local lymph node assay (LLNA) - Guinea pig Result: positive (OECD Test Guideline 429)
May cause allergic skin reaction

a-pinene
May cause allergic skin reaction. May cause sensitization by skin contact.

beta-Pinene
May cause allergic skin reaction

Linalool
May cause allergic skin reaction

Note : May cause allergic reaction by skin contact.

Ingestion

Note : No data available

Mutagenicity of germ cells

methyleugenol
It is supposed that it causes genetic defects.
Test type: In vitro chromosomal aberration test
Result: positive

Note : It is supposed that it causes genetic defects.

Carcinogenicity

Note : CAS 5989-27-5; IARC Group 3; The agent cannot be classified as carcinogenic for human.

Summary of the assessment of CMR properties

Methyl Eugenol
Result – Positive

Note : It is supposed to cause cancer.

para-Cymene
It is supposed to impair fertility.
Toxicity to the developing organism - Rat - male and female - Oral

STOT (specific target organ toxicity) — single exposure

Note : No data available

STOT (specific target organ toxicity) — repeated exposure

Note : No data available

Aspiration hazard

Beta-Caryophyllene
It can be fatal if swallowed and enters the respiratory tract.

ISOEUGENOL
Inhalation - May cause respiratory tract irritation.

Information on possible routes of exposure

Note : Dermal

Symptoms related to physical, chemical and toxicological characteristics

Note : Toxicological characteristics are not comprehensively studied

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

87-44-5 beta-Caryophyllene
Oral, NOAEL: 700 mg/kg (rat) (90 days Schmitt 2016)

Note : Toxicological characteristics are not comprehensively studied

Interactions

Note : Toxicological characteristics are not comprehensively studied

Lack of specific data		
Note	:	Toxicological characteristics are not comprehensively studied
Mixtures		
Note	:	Toxicological characteristics are not comprehensively studied
Medical consideration		
Note	:	Persons having rash are directed to dermal specialist to be examined for allergic eczema.
Other information		
Note	:	Please, remember that this oil contains methyl eugenol that is considered potentially carcinogenic by IFRA (based on high-dose study on rodents). It must be mentioned though that there is not evidence that the tumour in humans are cause by the use of the essencial oils. Dilute before use. Before use a patch test should be carried out for people with sensitive skin.

11.2. Properties disturbing the functions of the endocrine system

para-Cymene
Repeated dose toxicity - Rat - male - Oral - No adverse effect level has been studied - 50 mg/kg
Repeated dose toxicity - Rat - male – Inhalation Notes: (ECHA)

12. Ecological information

Note	:	No information available on the oil itself.

12.1. Toxicity of components

Product:
Acute (short-term) toxicity:
Fish

Menthol
LC50 15,6 mg/l fish ECHA 96 h

Citral
LC50 6,78 mg/l fish ECHA 96 h

Citronellol
static test LC50 - Leuciscus idus - 14,66 mg/l - 96 h Notes: (ECHA)

Geraniol
LC50 22 mg/l fish ECHA 96 h
LC50(96 h, Danio rerio (zebra fish)) = 14 mg/l

Farnesol
LC50 - Pimephales promelas (A small fish, stickleback) - 1,43 mg/l- 96 h Notes: (ECHA)

Linalool
LC50 27,8 mg/l fish ECHA 96 h

Methyleugenol
LC50-Oncorhynchus mykiss (Canadian trout)-6 mg/l-96 h
LC50-Oncorhynchus mykiss (Canadian trout)-6 mg/l-96 h
LC50-Lepomis macrochirus (Bluegill Sunfish)-8,1 mg/l-96 h
LC50-Oncorhynchus mykiss (Canadian trout)-6,9 mg/l-96 h

para-Cymene
static test LC50 - Cyprinodon variegatus (Sheepshead sea bream) - 48 mg/l - 96 h (OPPTS 850.1075)

Terpineol
LC50 70 mg/l fish ECHA 96 h

DL-α-pinene 80-56-8 LC50 0,303 mg/l fish 96 h

ß-pinene 18172-67-3 LC50 0,68 mg/l rainbow trout (Oncorhynchus mykiss) 96 h

α-Terpinene 99-86-5
LC50 3,150 µg/l fish ECHA 96 h

Phenethyl alcohol
LC50 <464 mg/l fish ECHA 96 h

terpinolene 586-62-9 LC50 0,805 mg/l fish 96 h

Geranyl Acetate 105-87-3 LC50 68,12 mg/l fish 96 h

neral 106-26-3 LC50 6,78 mg/l fish 96 h

γ-terpinene 99-85-4 EC50 2,792 mg/l fish 96 h

eucalyptol 470-82-6 LC50 57 mg/l fish 96 h

Toxic for Daphnia and other aquatic invertebrates

Menthol
EC50 26,6 mg/l aquatic invertebrates ECHA 48 h

Citral
EC50 6,8 mg/l aquatic invertebrates ECHA 48 h

Citronellol
static test EC50 - Daphnia magna (Water flea) - 17,48 mg/l - 48 h Notes: (ECHA)

Geraniol
EC50 10,8 mg/l aquatic invertebrates ECHA 48 h
EC50 (48 h, Daphnia magna (Water flea)) = 7.75 mg/l (OECD Test Guideline 202)

Linalool
EC50 59 mg/l aquatic invertebrates ECHA 48 h

Beta-Caryophyllene
static test EC50 - Daphnia magna Straus (Water flea) - > 0,17 mg/l - 48 h (OECD Test Guideline 202)
EC50 >0,17 mg/l giant water flea ECHA 48 h

beta-Myrcene
EC50 - Daphnia magna (Water flea) - 1,47 mg/l - 48 h
(OECD Test Guideline 202)

para-Cymene
semi-static test EC50 - Daphnia magna (Water flea) - 3,7 mg/l - 48h (OECD Test Guideline 202)

Terpineol
EC50 73 mg/l aquatic invertebrates ECHA 48 h

DL-α-pinene 80-56-8 EC50 0,475 mg/l aquatic invertebrates 48 h

α-Terpinene 99-86-5
EC50 1.7 mg/l aquatic invertebrates ECHA 48 h

ISOEUGENOL
EC50 - Daphnia (Water flea) - 7,5 mg/l - 48 h
EC50 - Daphnia (Water flea) - 4,8 mg/l - 48 h
Notes: (calculated)

terpinolene 586-62-9 EC50 0,634 mg/l aquatic invertebrates 48 h

Geranyl Acetate 105-87-3 EC50 14,1 mg/l aquatic invertebrates 48 h

neral 106-26-3 EC50 6,8 mg/l aquatic invertebrates 48 h

eucalyptol 470-82-6 EC50 >100 mg/l aquatic invertebrates 48 h

Algae/aquatic plants

Menthol
ErC50 21,4 mg/l algae ECHA 72 h

Citral
ErC50 103,8 mg/l algae ECHA 72 h

Citronellol
static test ErC50 - Scenedesmus quadricauda (green algae) - 2,4 mg/l - 72 h
Notes: (ECHA)

Geraniol
ErC50 13,1 mg/l algae ECHA 72 h
ErC50(72 h, Scenedesmus capricornutum (fresh water algae)) = 3.32 mg/l (OECD Test Guideline 201)

Linalool
ErC50 156,7 mg/l algae ECHA 96 h

Beta-Caryophyllene
ErC50 >0,033 mg/l algae ECHA 72 h

beta-Myrcene
ErC50 - Pseudokirchneriella subcapitata (green algae) - 0,32mg/l - 72 h (OECD Test Guideline 201)

para-Cymene
static test EC50 - Scenedesmus capricornutum (freshwater algae) - 4,03 mg/l - 72 h (OECD Test Guideline 201)

Terpineol
ErC50 68 mg/l algae ECHA 72 h

ß-pinene 18172-67-3
ErC50 0,7 mg/l Pseudokirchneriella subcapitata ECHA 72 h

terpinolene 586-62-9 ErC50 0,692 mg/l algae 72 h

Geranyl Acetate 105-87-3 ErC50 3,72 mg/l algae 72 h

neral 106-26-3 ErC50 103,8 mg/l algae 72 h

eucalyptol 470-82-6 ErC50 >74 mg/l algae 72 h

Bacteria

Citronellol
Difficulty breathing EC50 - Pseudomonas putida
(A rod-shaped gram-negative bacterium) - > 10.000 mg/l - 0,5h Notes: (ECHA)

Linalool
EC50 >100 mg/l microorganisms ECHA 30 min

beta-Pinene
EC50 326 mg/l microorganisms ECHA 3 h
static test EC50 - Sewage sludge - 326 mg/l - 3 h
(OECD Test Guideline 209)

para-Cymene – poisonous to bacteria
static test NOEC - Activated sludge - 100 mg/l - 28 d

Citral
EC50 160 mg/l microorganisms ECHA 30 min

Chronic (long-term) toxicity:

beta-Pinene
May cause long-term adverse effects in the aquatic environment

para-Cymene – poisonous to bacteria
static test NOEC - Activated sludge - 100 mg/l - 28 d

-pinene 18172-67-3
May cause long-term adverse effects in the aquatic environment

Linalool
EC50 >100 mg/l microorganisms ECHA 30 min

Fish

D-(+)-limonene 5989-27-5 EC50 <0.67 mg/l fish 8 d

Shellfish

Limonene
EC50 188 µg/l aquatic invertebrates ECHA 21 d

Algae/water plants

Note : No data available

Other organisms

Citral
EC50 160 mg/l microorganisms ECHA 30 min

Geraniol
EC50 70 mg/l microorganisms ECHA 30 min

Linalool 78-70-6
EC50 >100 mg/l microorganisms 30 min

ß-pinene 18172-67-3
EC50 326 mg/l microorganisms ECHA 3 h

ß-pinene 18172-67-3
growth (EbCx) 10% 38 mg/l microorganisms ECHA 3 h

p-Cymene 99-87-6
NOEC 100 mg/l microorganisms ECHA 28 d

(±)-ß-Citronellol 106-22-9 EC50 >10.000 mg/l microorganisms 30 min

Terpinolene 586-62-9 EC50 69 mg/l microorganisms 3 h

Geranial 141-27-5 EC50 160 mg/l microorganisms 30 min

neral 106-26-3 EC50 160 mg/l microorganisms 30 min

γ-terpinene 99-85-4 EC50 >1.000 mg/l microorganisms 3 h

α-terpinene 99-86-5 EC50 >10 mg/l microorganisms 3 h

eucalyptol 470-82-6 EC50 >100 mg/l microorganisms 3 h

12.2. Persistence and degradability

Substance: 2,91 $_{mg}/^{mg}$

Abiotic degradation

Degradation of mixture components

DL-α-pinene 80-56-8
oxygen depletion 68 % - 28 d
Myrcene 123-35-3
oxygen depletion 76 % - 28 d

Linalool Abiotic degradation Time
oxygen depletion 40,9 % - 5 d

Geraniol 106-24-1
DOC removal 90 – 100 % 3 d ECHA

Geranyl Acetate 105-87-3
oxygen depletion >70 % 28 d ECHA

ß-pinene 18172-67-3
oxygen depletion 76 % - 28 d

D-(+)-limonene 5989-27-5 generation of carbon dioxide 58.8 % 14 d ECHA
D-(+)-limonene 5989-27-5 oxygen depletion 80 % 28 d ECHA

Alpha-Terpineol
aerobic - Exposure time 28 d
Result: 80 % - Easily biodegradable..
(OECD Test Guideline 310)

Citral
biotic/abiotic >90 % 28 d
oxygen depletion >90 % 28 d

(±)-ß-Citronellol 106-22-9 biotic/abiotic >60 % d modifizierter OECD Screening Test
(±)-ß-Citronellol 106-22-9 oxygen depletion 80 – 90 % 28 d ECHA

terpinolene 586-62-9 oxygen depletion 81 % 28 d ECHA

neral 106-26-3 oxygen depletion >90 % 28 d ECHA

L-limonene 5989-54-8 oxygen depletion 85 % 28 d ECHA

γ-terpinene 99-85-4 oxygen depletion 27 % 28 d ECHA

α-terpinene 99-86-5 oxygen depletion 30 % 14 d ECHA

eucalyptol 470-82-6 generation of carbon dioxide 82 % 28 d ECHA

Physical and photo-chemical elimination		
Note	:	No data available

Biochemical degradation		
Note	:	The substance is directly biodegradable.

12.3. Bioaccumulation

Product: No data available

Bioaccumulation of mixture components:

DL-α-pinene Log KOW 4,83
DL-limonene Log KOW 4,57
Myrcene Log KOW 4,82 (pH value:~6,5, 30°C)
Menthol Log KOW 3,15 (25°C) (ECHA)
Citral log KOW 2,76 (25°C) (ECHA)
Geraniol log KOW 2,6 (25°C) (ECHA)
Linalool log KOW 2,9 (pH value: 7,20°C) (ECHA)
Beta-Caryophyllene log KOW 6,23 (pH value: 7,25°C) (ECHA)
Terpineol n-octanol/water (log KOW) 2,98 (TOXNET)
DL-α-pinene 80-56-8 4,83
(±)-ß-Citronellol 106-22-9 82,59 3,41 (25 °C)
terpinolene 586-62-9 4,47
Geranyl Acetate 105-87-3 4,04
neral 106-26-3 89,72
γ-terpinene 99-85-4 5,4 (25 °C)
α-terpinene 99-86-5 5,3 (35 °C)
eucalyptol 470-82-6 3,4

Bioconcentration factor (BCF)		
Notes	:	Does not accumulate in biological environment

12.4. Mobility in soil

Product: No data available

Known or predicted distribution in environmental components		
Note	:	No data available

Surface tension		
Note	:	No data available

Adsorption/desorption		
Note	:	No data available

12.5. Results of PBT and vPvB assessment

This product doesn't contain substances considered persistent, bioaccumulative or toxic PBT.

Product:

Results from PBT and vPvB assessment		
Notes	:	No information available

12.6. Other adverse effects

Product:

Biochemical oxygen demand (BOD)		
Value	:	No information available

Chemical oxygen demand (COD)		
Value	:	No information available

Additional ecological information/Mobility in soil		
Notes	:	No information available

12.7. Additional information

Notes	:	Avoid release of products in streams, sewer systems or other water routes.

13. Disposal Considerations

13.1. Waste treatment methods

Product	:	Treat this material and its packaging as hazardous waste. Dispose of contents/container in accordance with the local/regional/national/international regulation.

Information on discharge in sewer systems

Do not discharge into drains. Avoid release to the environment, see special instructions/safety data sheet.

Container/packaging disposal considerations

It is a hazardous waste; only packaging that is approved (e.g. according to ADR) can be used. Treat contaminated packaging in the same way as the substance itself. Completely emptied packaging can be recycled.

13.2. Relevant provisions relating to waste

Placing codes/names on the waste should be carried out in accordance with the Regulation on the catalog of waste, according to the specifics of the given production or process.

Properties of waste that make it hazardous

HP 4 irritant - skin irritation and eye damage
HP 13 sensitizing
HP 14 toxic to the environment

13.3. Notes

Waste must be separated into categories that can be treated separately by local or national waste management authorities. Note any national or regional regulations that are relevant. Emptied and cleaned packaging can be recycled.

14. Transport Information

14.1. UN number or ID number

ADR/RID/ADN	3082
IMDG Code	3082
ICAO-TI	3082

14.2. UN proper shipping name

ADR/RID/ADN	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)	Oil of geranium, terpinolene

14.3. Transport hazard class(es)

ADR/RID/ADN	9
IMDG Code	9
ICAO-TI	9

14.4 Packing group

ADR/RID/ADN	III
IMDG Code	III
ICAO-TI	III

14.5. Environmental hazards

Hazardous to the aquatic environment

14.6. Special precautions for user

Dangerous goods regulations (ADR) must be followed within the sites.

14.7. Transport in bulk according to Annex II to MARPOL and IBC Code"

The cargo is not intended for transport in bulk.

14.8. Information on all UN Model rules

Road, rail and inland water transport of dangerous goods (ADR/RID/ADN) - Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Details in the transport document	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., Oil of geranium, terpinolene, 9, III, (-)
Classification code	M6

Hazard label(s).	9, "Fish and wood"

Environmental hazards	yes (Harmful to aquatic life)
Special provisions (SP)	274, 335, 375, 601
Excluded quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restrictions code (TRC)	-
Identif. Hazard No	90

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
The details as per the shipper's declaration	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Oil of geranium, terpinolene), 9, III
Marine pollutant	yes (Harmful to aquatic life), (Oil of geranium, terpinolene)
Hazard label(s).	9, "Fish and wood"

Special provisions (SP)	274, 335, 969
Excluded quantities(EQ)	E1
Limited quantities(LQ)	5 L
EmS	F-A, S-F
Storage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) -Additional information

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
The details as per the shipper's Declaration	UN3082, Environmentally hazardous substance, liquid, n.o.s., (Oil of geranium, terpinolene), 9, III
Environmental hazards	yes (Harmful to aquatic life)
Hazard label(s).	9, "Fish and wood"

Special provisions (SP)	A97, A158, A197, A215
Excluded quantities (EQ)	E1
Limited quantities (LQ)	30 kg

15. Regulatory information

15.1. Legislation specific for the substance or mixture / safety, health and environmental regulations

The relevant European Union (EU) regulations

Restrictions according to REACH Annex XVII

Substance name	Name in accordance with the inventory	CAS No	Restriction	No
Oil of geranium	This product meets the criteria for classification according to Regulation No. 1272/2008/EC		**R3**	**3**
Geranial	substances in tattoo inks and permanent makeup		**R75**	**75**
Neral	substances in tattoo inks and permanent makeup		**R75**	**75**
Geranyl Acetate	substances in tattoo inks and permanent makeup		**R75**	**75**
Citronellol	substances in tattoo inks and permanent makeup		**R75**	**75**
Geraniol	substances in tattoo inks and permanent makeup		**R75**	**75**
Myrcene	flammable / pyrophoric		**R40**	**40**
Myrcene	substances in tattoo inks and permanent makeup		**R75**	**75**
D-(+)-limonene	flammable / pyrophoric		**R40**	**40**
D-(+)-limonene	substances in tattoo inks and permanent makeup		**R75**	**75**
Terpinolene	substances in tattoo inks and permanent makeup		**R75**	**75**
L-limonene	flammable / pyrophoric		**R40**	**40**

L-limonene	substances in tattoo inks and permanent makeup		**R75**	**75**
Linalool	substances in tattoo inks and permanent makeup		**R75**	**75**
DL-α-pinene	flammable / pyrophoric		**R40**	**40**
DL-α-pinene	substances in tattoo inks and permanent makeup		**R75**	**75**
α-terpineol	This product meets the criteria for classification according to Regulation No. 1272/2008/EC		**R3**	**3**
α-terpineol	substances in tattoo inks and permanent makeup		**R75**	**75**
β-caryophyllene	This product meets the criteria for classification according to Regulation No. 1272/2008/EC		**R3**	**3**
citral	This product meets the criteria for classification according to Regulation No. 1272/2008/EC		**R3**	**3**
citral	substances in tattoo inks and permanent makeup		**R75**	**75**

Legend

R3 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, or both, if they:
- can be used as fuel in decorative oil lamps for supply to the general public, and,
- present an aspiration hazard and are labelled with risk phrase 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 Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:

a) lamp oils, labelled with risk phrase 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 risk phrase 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 may lead to life threatening lung damage";

c) lamp oils and grill lighters, labelled with risk phrase H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010;

R40 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
- metallic glitter intended mainly for decoration,
- artificial snow and frost,
- 'whoopee' cushions,
- silly string aerosols,
- imitation excrement,
- horns for parties,
- decorative flakes and foams,

- artificial cobwebs,
- stink bombs.

2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
'For professional users only'.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.
R75 1. Shall not be placed on the market in mixtures intended for tattooing, and mixtures, containing any of these substances, shall not be used for tattooing purposes after 4 January 2022, if the substance or substances in question 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 carcinogenic, category 1A, 1B or 2, or mutagenic to germ cells, category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0.00005 weight percent;
b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as toxic for reproduction, category 1A, 1B or 2, the substance is present in the mixture at a concentration equal to or greater than 0.001 weight percent;
c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as a skin sensitiser, category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0.001 weight percent;
d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as causing skin corrosion, category 1, 1A, 1B or 1C, or skin irritation, category 2, the substance is present in the mixture in a concentration equal to or greater than:
i) 0.1 weight percent if the substance is used solely as a pH regulator;
ii) 0.01 weight percent in all other cases;
e) in the case of a substance classified in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0.00005 weight percent;
f) in the case of a substance for which a condition is indicated for one or more of the following types in column g (Type of product, 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 weight percent:
i) „Rinse-off products"
ii) „Not to be used in products for application 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 the ready-to-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 otherwise not meeting the condition specified in this column:
h) 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 the use of a mixture "for tattooing" means the injection or introduction of the mixture into the skin, mucous membrane or eyeball of a person by a process or procedure (including procedures commonly referred to as "permanent makeup", "cosmetic tattooing", "microblading" and "micropigmentation") aimed at achieving a mark or drawing on his body.
3. If a substance not listed in Appendix 13 falls within the scope of more than one of points a) to g) of paragraph 1, the most stringent concentration limit established in those points shall apply to that substance. If a substance listed in Appendix 13 also falls within the scope of one or more of points a) to g) of paragraph 1, the concentration limit set out in point h) of paragraph 1 applies 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, EO number 205-685-1, CAS number 147-14-8);
b) Pigment Green 7 (CI 74260, EO number 215-524-7, CAS number 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 reclassify a substance so that it falls under points a), b), c) or (d) of paragraph 1 of this entry or falls under a different point from that in which it previously fell, and the date of application of that new or revised classification is after the date specified in paragraph 1 or, as the case may be, in paragraph 4 of this entry, then, for the purposes

of applying this entry to the specified substance, that amendment shall be treated as coming into force 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 add a substance to the list or to change its entry so that it falls under points e) , f) or g) of paragraph 1 of this entry, or fall in a different point from that in which it previously fell, and the amendment takes effect after the date specified in paragraph 1 or, as the case may be, paragraph 4 of this entry, then for the purposes of the application of this entry in relation to the specified substance, this amendment shall be treated as coming into force 18 months after the entry into force of the act which the said amendment is made by.
7. Suppliers that place on the market a mixture intended for tattooing shall ensure that, after 4 January 2022, the following information is indicated on the label of the mixture:
a) the text "Mixture intended for tattoos or permanent make-up";
b) a unique lot identification reference number;
c) the list of ingredients in accordance with the nomenclature established with the Glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common name of an ingredient, the IUPAC name. In the absence of a name or IUPAC name, the CAS number and the EC number. Ingredients are listed in descending order by weight or volume of ingredients at the time of formulation. "Ingredient" means any substance added during the formulation process and present in the mixture intended for tattooing. Impurities are not considered ingredients. If there is already a requirement for the name of a substance used as an ingredient within the meaning of this entry to be indicated on the label in accordance with Regulation (EC) No 1272/2008, this ingredient is not necessary to be indicated in accordance with this regulation;
d) the additional text "pH regulator" for substances covered by paragraph 1, letter d), subsection i);
e) the text "Contains nickel. May cause allergic reactions.", if the mixture contains nickel below the limit concentration, specified in Appendix 13;
f) the text "Contains chromium (VI). May cause allergic reactions.", if the mixture contains chromium (VI) below the concentration limit, specified in Appendix 13;
g) instructions for safe use to the extent that until now, according to Regulation (EC) No 1272/2008, they were not required to be indicated on the label. The information is clearly visible, easy to read and marked to be indelible. The information shall be written in the official language(s) of the Member State(s) in which the mixture is placed on the market, unless otherwise provided in the Member State(s) concerned. Where this is required due to the size of the package, the information referred to in the first paragraph, with the exception of letter a), shall instead be included in the instructions for use. Before using a mixture for the purpose of tattooing, the person using the mixture shall provide the person undergoing the procedure with the information marked on the packaging or included in the instructions for use under this paragraph.
8. Mixtures which labels do not contain the text "Mixture intended for tattooing or permanent make-up" are not used for the purpose of tattooing.
9. This entry does not apply to substances which are gases at a temperature of 20 °C and a pressure of 101,3 kPa or generate a vapor pressure of more than 300 kPa at a temperature of 50 °C, with the exception of formaldehyde (CAS number 50-00 -0, EC number 200-001-8).
10. This entry does not apply to the placing on the market of a mixture intended for tattooing or to the use of a mixture for the purposes of tattooing when it is 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 accessory to a medical device in the same sense. When the placing on the market or use may not be exclusively as a medical device or accessory to a medical device, the requirements under Regulation (EU) 2017/745 and under this Regulation shall apply cumulatively.

Seveso Directive

2012/18/EC (Seveso III)				
№	**Hazardous substance/hazard categories**	**Threshold quantity (in tonnes) for the application of the requirements at low and high risk potential**		**Notes**
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	**200**	**500**	**57)**

Notation
57) Hazardous to the aquatic environment in the category Chronic hazard, category 2

Water Framework Directive (WFD)

List of pollutants (WFD)

Substance name	Name in accordance with the inventory	CAS No	Listed in	Notes
Linalool	Substances and preparations or constituents thereof that have proven carcinogenic or mutagenic properties or properties that may affect steroids, thyroid, reproduction or other endocrine functions in or through the aquatic environment		A)	
Myrcene	Substances and preparations or constituents thereof that have proven carcinogenic or mutagenic properties or properties that may affect steroids, thyroid, reproduction or other endocrine functions in or through the aquatic environment		A)	

Legend
A) Recommended list of major pollutants

Other regulations / Laws : This material safety data sheet is consistent with the Law on Protection from Harmful Effects of Chemical Substances and Preparations and the Ordinance on the Classification, Packaging and Labelling

EU legislative acts : accordingly, EU regulations.

The following restrictions are applicable according to Annex XVII to Regulation (EC) No. 1907/2006 of REACH

3. Liquid substances or mixtures which are regarded as dangerous set out in Annex I to Regulation (EC) No 1272/2008	Pelargonium Graveolens Oil, Citronellol, Geraniol, Linalool, A-Pinene, Limonene, 2-Phenylethanol, Menthol, Beta-Pinene, G-Terpinene, P-Cymene, 3-Octanol, Terpinolene, Cis-Rose Oxide, Terpineol, Geranyl Acetate, Beta - Myrcene, 1,8-Cineole, Alpha-Phellandrene, Methyl Eugenol, Isoeugenol, Beta-Caryophyllene
3a. Substances or mixtures meeting the criteria for any of the following hazard classes or categories listed in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8, type A and B, 2.9 , 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15	A-Pinene, Limonene, Beta-Pinene, G-Terpinene, P-Cymene, Beta - Myrcene, 1,8-Cineole, Alpha-Phellandrene
3.b. Substances or mixtures meeting the criteria for any of the following hazard classes or categories listed in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development , 3.8 effects other than narcotic effects, 3.9 and 3.10	Pelargonium Graveolens Oil, Citronellol, Geraniol, Linalool, A-Pinene, Limonene, 2-Phenylethanol, Menthol, Beta-Pinene, G-Terpinene, P-Cymene, 3-Octanol, Terpinolene, Cis-Rose Oxide, Terpineol, Geranyl Acetate, Beta - Myrcene, 1,8-Cineole, Alpha-Phellandrene, Methyl Eugenol, Isoeugenol, Beta-Caryophyllene
3.c. Substances or mixtures meeting the	Pelargonium Graveolens Oil, Citronellol, A-Pinene, Limonene, Beta-Pinene, G-

criteria for any of the following hazard classes or categories listed in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	Terpinene, Terpinolene, Geranyl Acetate, Beta-Myrcene, Methyl Eugenol

Other legislative acts, permits or restrictions for use

According to Regulation 1223/2009.
* The component methyl eugenol is not permuted for use in cosmetics products excluding the cases it is a natural ingredient of the essential oils or other natural flavoring product. In the end product it should not exceed the following quantities:
- 0.01% in fine perfumes;
- 0.004% in toilet water;
- 0.002% cream perfumes;
- 0.0002% - other leave-on products and oral products;
- 0.001% rinse-off products

14.9. Chemical Safety Assessment

No data available.
The supplier had not prepared a chemical safety assessment for this substance/mixture.

15. Other information

Shelf life: 30 months from the date of manufacture.

Classification and procedure used to obtain the classification of mixtures according to Regulation (EC) No 1272/2008 [CLP]

Specifying the changes :

Change of allergens, classification, phrases for safety and additional information about the product based on gas-chromatographic analysis and latest changes.

Abbreviations and acronyms:

Abbr.	Description of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement on the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement on the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the international carriage of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)
ATE	Assessment of acute toxicity
BCF	bioconcentration factor
BOD	Biochemical Oxygen Demand

CAS	Chemical Abstracts Service (prepares the most comprehensive list of chemicals)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (Classification, Labelling and Packaging)
COD	Chemical Oxygen Demand
CMR	Carcinogenic, mutagenic and toxic for reproduction (substance)
DGR	Dangerous Goods Regulations (see IATA/DGR))
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. EC50 refers to the concentration of the test substance causing a 50 % change in response (e.g. in growth) over a specified time interval
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, this is the concentration of the test substance that causes a 50 % reduction in growth (EbC50) or growth rate (ErC50) relative to the control
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 carriage of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50 %: LC50 refers to the concentration of test substance causing 50% lethality over a specified time interval
LD50	Lethal Dose 50 % LD50 refers to the dose of a test substance causing 50% lethality over a specified time interval
log KOW	n-octanol/water
NLP	A substance that no longer has the properties of a 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 (Regulation on Carriage of Dangerous Goods by Rail)
SVHC	Substance of Very High Concern
UEL	Upper Explosion Limit (UEL)
vPvB	very Persistent and very Bioaccumulative
EC No in EU List	(EINECS, ELINCS и NLP-list) is the source for the seven-digit EC number, identifier of substances in the commercial network within the EU (European Union)
Index No	the index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
VOC	Volatile Organic Compounds

Main references and sources of data in the literature
- Regulation (EC) No 1907/2006 (REACH), as amended by 2020/878
- Regulation (EC) No 1272/2008 (CLP, EC GHS)

	List of relevant phrases (code and full text as defined in Section 2 and 3)
Code	**Text**
H315	Causes skin irritation
H317	May cause allergic skin reaction
H318	Causes serious eye damage
H341	It is assumed to cause genetic defects.
H351	It is assumed to cause cancer
H411	Toxic for aquatic life with long-lasting effect
EUH 208	Contains beta-Myrcene, 3-octanol, para-Cymene, Methyl Eugenol, alpha-Pinene, beta-Pinene, Limonene, Linalool, Menthol, Terpineol, Citronellol, Citral, Geraniol, Phenethyl Alcohol, Geranyl Acetate, Beta-Caryophyllene, 1,8 cineol, Isoeugenol. May cause allergic reaction.
	List of instructions for safe treatment, used in the safety document
P101	In case you need medical advice have with you the packing or the label of the product.
P102	Keep away from children
P260	Do not inhale vapours/aerosols.
P280	Use protective gloves/protective clothing/protective goggles/facial mask.
P302 + P352	IF SKIN CONTACT: Wash with plenty of water/…
P305 + P351 + P338	IF EYES CONTACT: Rinse thoroughly with water for several minutes. Remove the contact lenses if there are such and if possible. Continue rinsing.
P333 + P313	In case skin irritation or rash occurs: seek medical advice/help.
P273	Avoid release to the environment
P405	Keep under lock and key.
P501	Dispose of the content / container in an approved for disposal place in compliance with the local and national regulations.

Other information : In accordance with general product specification:
The information in this material safety data sheet is meant to represent typical data/analysis for this product and was obtained from current and reliable sources.
To the best of our knowledge, data is accurate and based on our knowledge and information, at the time of publication.
The information presented is intended only as a guidance for proper and safe use, handling, storage, transportation and disposal, and

should not be considered a guarantee /expressed or implied/ or a quality specification with respect to the correctness or accuracy.
It is responsibility of the user to determine any safe conditions for use of this product, and to assume responsibility for any loss, injury, damage or expenses resulting from the improper use of this product.
The information relates to the specific product only and is not valid when it used in combination with other materials or in any process, unless specified in the text.
The information provided does not constitute a delivery contract; regarding any specification or a given application, the buyer must determine for himself the requirements and recommendations for use of the product.

Disclaimer :

The data in this Safety Ordinance correspond to the fair presentation of our experience at the time of printing. The information should give you basic guidelines for safe handling of this product, specified in the Safety Ordinance regarding its storage, processing, transport and disposal. Data cannot be assigned to other products.
If the product is mixed or processed with other materials, or if it is subject to processing, the data in this Safety Ordinance cannot be assigned to the new material unless expressly stated otherwise.

The information provided is intended only as a guide to safe handling, use, processing, storage, transportation, disposal and release and should not be considered a warranty or quality specification.
Due to the many factors beyond our control in the use of this product, we cannot accept responsibility for accidents, mishaps, loss or damage caused by its use.

E N D!

TABLE OF EXTENDED ALLERGEN SUBSTANCES – REGULATION EC 2023/1545

Customer: „ ALTEYA ORGANICS LLC, 1 Rozovarna St., 6167, village of Yagoda, Stara Zagora region

Name of product: Natural Organic Geranium Oil – v.02/31.05.2024

INCI or GROUPING NAME	1223/2009 N° ANNEX	CAS Number	Concentr. 100% W/W
6-METHYLCOUMARIN	46	92-48-8	-
ACETYL CEDRENE	327	32388-55-9	-
ALPHA ISOMETHYL IONONE	90	127-51-5	-
ALPHA-TERPINENE	131	99-86-5	-
AMYL CINNAMAL	67	122-40-7	-
AMYL SALICYLATE	328	2050-08-0	-
AMYLCINNAMYL ALCOHOL	74	101-85-9	-
ANETHOLE	329	104-46-1 4180-23-8	-
ANISE ALCOHOL	80	105-13-5	-
BENZALDEHYDE	330	100-52-7	-
BENZYL ALCOHOL	45	100-51-6	-
BENZYL BENZOATE	85	120-51-4	-
BENZYL CINNAMATE	81	103-41-3	-
BENZYL SALICYLATE	75	118-58-1	-
BETA-CARYOPHYLLENE	332	87-44-5	2.6
CAMPHOR	331	76-22-2 464-48-2 464-49-3 21368-68-3	-
CARVONE	333	2244-16-8 6485-40-1 99-49-0	-
CINNAMAL	76	104-55-2	-
CINNAMYL ALCOHOL	69	104-54-1	-
CITRAL	70	5392-40-5 106-26-3 141-27-5	1.0
CITRONELLOL	86	106-22-9 1117-61-9 7540-51-4 26489-01-0	36.9
COUMARIN	77	91-64-5	-
DIMETHYL PHENETHYL ACETATE	334	151-05-3	-
EUGENOL	71	97-53-0	-
EUGENYL ACETATE	368	93-28-7	-
FARNESOL	82	4602-84-0	-
GERANIOL	78	106-24-1	24.9
GERANYL ACETATE	369	105-87-3	0.3
HEXADECANOLACTONE	335	109-29-5	-
HEXAMETHYLINDANOPYRAN	336	1222-05-5	-
HEXYL CINNAMAL	87	101-86-0	-
HYDROXYCITRONELLAL	72	107-75-5	-
ISOEUGENOL	73	5912-86-7 5932-68-3 97-54-1	0.1
ISOEUGENYL ACETATE	370	93-29-8	-
LIMONENE	88	5989-54-8 138-86-3 7705-14-8 5989-27-5	1.1
LINALOOL	84	78-70-6	11.1

LINALYL ACETATE	337	115−95−7	-
MENTHOL	338	1490−04−6 89−78−1 15356−60−2 2216−51−5	1.5
METHYL 2−OCTYNOATE	89	111−12−6	-
METHYL SALICYLATE	324	119−36−8	-
PINENE	371	80−56−8 7785−70−8 127−91−3 18172−67−3	1.4
PROPYLIDENE PHTHALIDE	175	17369−59−4	-
ROSE KETONES	157	23726−91−2 23726−94−5 23726−93−4 24720−09−0 71048−82−3 57378−68−4 23696−85−7 43052−87−5 23726−92−3	-
SALICYLALDEHYDE	340	90−02−8	-
SANTALOL	341	11031−45−1 115−71−9 77−42−9	-
SCLAREOL	342	515−03−7	-
TERPINEOL	343	586−81−2 8000−41−7 98−55−5 10482−56−1 138−87−4	1.0
TERPINOLENE	133	586−62−9	0.4
TETRAMETHYL ACETYLOCTAHYDRONAPHTHALENES	344	54464−59−4 54464−57−2 68155−67−9 68155−66−8	-
TRIMETHYLBENZENEPROPANOL	345	103694−68−4	-
TRIMETHYLCYCLOPENTENYL METHYLISOPENTENOL	339	67801−20−1	-
VANILLIN	346	121−33−5	-
CANANGA ODORATA OIL/EXTRACT	347	93686−30−7 83863−30−3 68606−83−7 8006−81−3	-
CEDRUS ATLANTICA OIL/EXTRACT	122	8023−85−6 92201−55−3	-
CINNAMOMUM CASSIA LEAF OIL	348	8007−80−5 84961−46−6	-
CINNAMOMUM ZEYLANICUM BARK OIL	349	8015−91−6 84649−98−9	-
CITRUS AURANTIUM BERGAMIA PEEL OIL	352	85049−52−1 68648−33−9 8007−75−8 89957−91−5	-
CITRUS AURANTIUM FLOWER OIL	350	72968−50−4 8028−48−6 8016−38−4	-
CITRUS AURANTIUM PEEL OIL	351	68916−04−1 97766−30−8 72968−50−4 8028−48−6 8008−57−9	-
CITRUS LIMON PEEL OIL	353	8008−56−8 84929−31−7	-
EUCALYPTUS GLOBULUS OIL	355	97926−40−4 8000−48−4	-
EUGENIA CARYOPHYLLUS OIL	356	8015−97−2 84961−50−2 8000−34−8	-

EVERNIA FURFURACEA (TREEMOSS) EXTRACT	92	90028−67−4	-
EVERNIA PRUNASTRI (OAK MOSS) EXTRACT	91	90028−68−5	-
JASMINE OIL/EXTRACT	357	8024−43−9 84776−64−7 8022−96−6 90045−94−6	-
JUNIPERUS VIRGINIANA OIL	358	85085−41−2 8000−27−9	-
LAURUS NOBILIS LEAF OIL	359	8007−48−5 84603−73−6 8002−41−3	-
LAVANDULA OIL/EXTRACT	360	91722−69−9 93455−97−1 92623−76−2 90063−37−9 84776−65−8 93455−96−0 8000−28−0 8022−15−9	-
LEMONGRASS OIL	354	89998−16−3 91844−92−7 8007−02−1	-
LIPPIA CITRIODORA ABSOLUTE	196	8024−12−2 85116−63−8	-
MENTHA PIPERITA OIL	361	84082−70−2 8006−90−4	-
MENTHA VIRIDIS LEAF OIL	362	8008−79−5 84696−51−5	-
MYROXYLON PEREIRAE OIL/EXTRACT	154	8007−00−9	-
NARCISSUS EXTRACT	363	90064−25−8 68917−12−4 90064−27−0 90064−26−9	-
PELARGONIUM GRAVEOLENS FLOWER OIL	364	8000−46−2 90082−51−2	100
PINUS MUGO	109	90082−72−7 8000−26−8	-
PINUS PUMILA	114	97676−05−6	-
POGOSTEMON CABLIN OIL	365	84238−39−1 8014−09−3	-
ROSE FLOWER OIL/EXTRACT	366	84604−12−6 84696−47−9 90106−38−0 93334−48−6 8007−01−0 92347−25−6 84604−13−7	-
SANTALUM ALBUM OIL	367	84787−70−2 8006−87−9	-
TURPENTINE	124	9005−90−7 8052−14−0 8006−64−2	-

According to Regulation EO 1223/2009 is hereby amended as follows:
The presence of the substance must be indicated in the list of ingredients referred to inArticle 6(1)(g) when its concentration exceeds:— **0,001 %** in "**leave-on"**products, (and)— **0,01 %** in**"rinse-off"**products