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

1.1 Product identifier

Trade name

LINARI-FIORE

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

Relevant identified uses of the substance or mixture
Fragrances

Uses advised against
No data available.

1.3 Details of the supplier of the safety data sheet

Address
LINARI GmbH
Jaffestrasse 12 | DOCK 2
21109 Hamburg
Germany

Telephone no. +49 40-7566850
Fax no. +49 40-7534505

Advice on Safety Data Sheet
sdb_info@umco.de

1.4 Emergency telephone number

Emergency CONTACT (24-Hour-Number) international:
GBK GmbH - Global Regulatory Compliance +49 (0)6132-84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)
Aquatic Chronic 3; H412
Eye Irrit. 2; H319
Flam. Liq. 2; H225

Classification information
This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:
Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP
Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements

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

Hazard pictograms


GHS02


GHS07

Signal word
Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Hazard statements (EU)

EUH208	Contains Citronellol, linalool, Benzyl salicylate, 7-hydroxycitronellal, (2E)-2-(phenylmethylidene)octanal, [3R-(3alpha,3abeta,7beta,8alpha)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8 tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one, geraniol, alpha-methyl-1,3-benzodioxole-5-propionaldehyde, 2-(4-tert-butylbenzyl) propionaldehyde. May produce an allergic reaction.

Precautionary statement(s)

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P370+P378	In case of fire: Use sand, fire powder, carbon dioxide or foam to extinguish.
P501	Dispose of contents/container to a facility in accordance with local and national regulations.

2.3 Other hazards

PBT assessment
The components of this product are not considered to be PBT (PBT = persistent, bioaccumulative, toxic) according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

vPvB assessment
The components of this product are not considered to be vPvB (vPvB = very persistent, very bioaccumulative) according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable. The product is not a substance.

3.2 Mixtures

Hazardous ingredients

No	Substance name		Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration	%
1	**ethanol**			
	64-17-5 200-578-6 603-002-00-5 01-2119457610-43	Flam. Liq. 2; H225 Eye Irrit. 2; H319	>= 70.00 - < 90.00	wt%
2	**1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran**			
	1222-05-5 214-946-9 603-212-00-7 -	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	< 2.50	wt%
3	**Citronellol**			
	106-22-9 203-375-0 - 01-2119453995-23	Eye Irrit. 2; H319 Skin Irrit. 2; H315 Skin Sens. 1B; H317	< 2.50	wt%
4	**linalool**			
	78-70-6 201-134-4 603-235-00-2 -	Skin Irrit. 2; H315 Skin Sens. 1B; H317 Eye Irrit. 2; H319	< 2.50	wt%
5	**Benzyl salicylate**			
	118-58-1 204-262-9 607-754-00-5 01-2119969442-31	Aquatic Chronic 3; H412 Skin Sens. 1B; H317 Eye Irrit. 2; H319	< 2.50	wt%
6	**7-hydroxycitronellal**			

	107-75-5 203-518-7 - 01-2119973482-31	Eye Irrit. 2; H319 Skin Sens. 1B; H317	<	2.50	wt%
7	**(2E)-2-(phenylmethylidene)octanal**				
	165184-98-5 639-566-4 - -	Aquatic Acute 1; H400 Aquatic Chronic 2; H411 Skin Sens. 1B; H317	<	0.50	wt%
8	**[3R-(3alpha,3abeta,7beta,8alpha)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8 tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one**				
	32388-55-9 251-020-3 - -	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Skin Sens. 1; H317	<	0.50	wt%
9	**geraniol**		**pls. refer to footnote (1)**		
	106-24-1 203-377-1 603-241-00-5 -	Eye Dam. 1; H318 Skin Irrit. 2; H315 Skin Sens. 1; H317	<	0.50	wt%
10	**alpha-methyl-1,3-benzodioxole-5-propionaldehyde**				
	1205-17-0 214-881-6 605-042-00-9 -	Aquatic Chronic 2; H411 Skin Sens. 1B; H317 Repr. 2; H361	<	0.30	wt%
11	**2-(4-tert-butylbenzyl) propionaldehyde**				
	80-54-6 201-289-8 605-041-00-3 -	Acute Tox. 4; H302 Skin Irrit. 2; H315 Skin Sens. 1B; H317 Repr. 1B; H360Fd Aquatic Chronic 2; H411	<	0.30	wt%
12	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**				
	3407-42-9 222-294-1 - 01-2119979583-21	Eye Irrit. 2; H319 Repr. 2; H361 Aquatic Chronic 2; H411	<	0.30	wt%

Full text of H- and EUH-phrases, if not already mentioned in section 2.2: see section 16.
(1) Aberrant from/in addition to the classification set out in Annex VI, this substance is classified according to European Regulation (EC) No 1272/2008 (CLP), Article 4 (3), paragraph 2.

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
1	-	Eye Irrit. 2; H319: C >= 50%	-	-

No	Route, target organ, concrete effect
10	H361 inhalational; -; -

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
In case of persisting adverse effects, consult a physician.

After inhalation
Remove affected person from the immediate area. Ensure supply of fresh air. In case of persisting adverse effects consult a physician. If unconscious place in recovery position and seek medical advice.

After skin contact
In case of contact with skin wash off immediately with soap and water. Remove contaminated clothing. Consult a doctor if skin irritation persists.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes).

After ingestion
Rinse the mouth thoroughly with water. Do not induce vomiting. If swallowed drink plenty of water and seek medical treatment. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed
No data available.

4.3 Indication of any immediate medical attention and special treatment needed
No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Foam; Extinguishing powder; Carbon dioxide; Water spray jet

Unsuitable extinguishing media
High power water jet

5.2 Special hazards arising from the substance or mixture
Formation of explosive mixtures with air is possible. Vapours are heavier than air and may spread near ground to sources of ignition. May travel considerable distance to source of ignition and flash back. In the event of fire, the following can be released: Carbon dioxide (CO2); Carbon monoxide (CO)

5.3 Advice for firefighters
Use self-contained breathing apparatus. Wear protective clothing. Cool endangered containers with water spray jet. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Exclude sources of ignition and ventilate the area. Avoid contact with skin, eyes and clothing. Refer to protective measures listed in sections 7 and 8.

For emergency responders
Personal protective equipment (PPE) - see section 8.

6.2 Environmental precautions
Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains/surface waters/groundwater. In case of entry into waterways, soil or drains, inform the responsible authorities.

6.3 Methods and material for containment and cleaning up
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
Information regarding safe handling, see section 7. Information regarding personal protective measures, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Provide good ventilation at the work area (local exhaust ventilation, if necessary).

General protective and hygiene measures
Do not eat, drink or smoke during work time. Keep away from food, drink and animal feeding stuffs. After worktime and during work intervals the affected skin areas must be thoroughly cleaned. Avoid contact with eyes and skin. Remove soiled or soaked clothing immediately. Provide eye wash fountain in work area. Have emergency shower available.

Advice on protection against fire and explosion
Keep away from sources of heat and ignition. Take precautionary measures against static charges.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels
Store product in closed containers. Always keep in containers of same material as the original.

Incompatible products
Do not store together with fire promoting substances.

7.3 Specific end use(s)
No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	**ethanol**	**64-17-5**	**200-578-6**
	List of approved workplace exposure limits (WELs) / EH40		
	Ethanol		
	WEL long-term (8-hr TWA reference period)	1920 mg/m³	1000 ppm

DNEL, DMEL and PNEC values

DNEL values (worker)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	**ethanol**			**64-17-5 200-578-6**	
	dermal	Long term (chronic)	systemic	8238	mg/kg/day
	inhalative	Long term (chronic)	systemic	380	mg/m³
2	**Citronellol**			**106-22-9 203-375-0**	
	dermal	Long term (chronic)	systemic	327.4	mg/kg bw/day
	dermal	Short term (acut)	local	2950	µg/cm²
	inhalative	Long term (chronic)	systemic	161.6	mg/m³
	inhalative	Long term (chronic)	local	10	mg/m³
	inhalative	Short term (acut)	local	10	mg/m³
3	**Benzyl salicylate**			**118-58-1 204-262-9**	
	dermal	Long term (chronic)	systemic	2.21	mg/kg/day
	inhalative	Long term (chronic)	systemic	7.8	mg/m³
4	**7-hydroxycitronellal**			**107-75-5 203-518-7**	
	dermal	Long term (chronic)	systemic	4.9	mg/kg bw/day
	dermal	Short term (acut)	local	500	µg/cm²
	inhalative	Long term (chronic)	systemic	8.7	mg/m³
5	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**			**3407-42-9 222-294-1**	
	dermal	Long term (chronic)	systemic	3.75	mg/kg bw/day
	inhalative	Long term (chronic)	systemic	13.2	mg/m³

DNEL value (consumer)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	**ethanol**			**64-17-5 200-578-6**	
	inhalative	Long term (chronic)	systemic	114	mg/m³

2	**Citronellol**			**106-22-9** **203-375-0**	
	oral	Long term (chronic)	systemic	13.8	mg/kg bw/day
	dermal	Long term (chronic)	systemic	196.4	mg/kg bw/day
	dermal	Short term (acut)	local	2950	µg/m³
	inhalative	Long term (chronic)	systemic	47.8	mg/m³
	inhalative	Long term (chronic)	local	10	mg/m³
	inhalative	Short term (acut)	local	10	mg/m³
3	**Benzyl salicylate**			**118-58-1** **204-262-9**	
	oral	Long term (chronic)	systemic	0.79	mg/kg/day
	dermal	Long term (chronic)	systemic	0.79	mg/kg/day
	inhalative	Long term (chronic)	systemic	1.37	mg/m³
4	**7-hydroxycitronellal**			**107-75-5** **203-518-7**	
	oral	Long term (chronic)	systemic	1.2	mg/kg bw/day
	dermal	Long term (chronic)	systemic	2.5	mg/kg bw/day
	dermal	Short term (acut)	local	500	µg/cm²
	inhalative	Long term (chronic)	systemic	2.1	mg/m³
5	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**			**3407-42-9** **222-294-1**	
	oral	Long term (chronic)	systemic	1.88	mg/kg bw/day
	dermal	Long term (chronic)	systemic	1.88	mg/kg bw/day
	inhalative	Long term (chronic)	systemic	3.26	mg/m³

PNEC values

No	**Substance name**		**CAS / EC no**	
	ecological compartment	**Type**	**Value**	
1	**ethanol**		**64-17-5** **200-578-6**	
	water	fresh water	0.96	mg/L
	water	marine water	0.79	mg/L
	water	fresh water sediment	3.6	mg/kg dry weight
	water	marine water sediment	2.9	mg/L
	soil	-	0.63	mg/kg dry weight
	sewage treatment plant	-	580	mg/L
	secondary poisoning	-	0.38	g/kg
	with reference to: food			
2	**Citronellol**		**106-22-9** **203-375-0**	
	water	fresh water	0.002	mg/L
	water	marine water	0	mg/L
	water	fresh water sediment	0.026	mg/kg dry weight
	water	marine water sediment	0.003	mg/kg dry weight
	soil	-	0.004	mg/kg dry weight
	sewage treatment plant	-	580	mg/L
3	**Benzyl salicylate**		**118-58-1** **204-262-9**	
	water	fresh water	0.001	mg/L
	water	marine water	0	mg/L
	water	fresh water sediment	0.583	mg/kg dry weight
	water	marine water sediment	0.058	mg/kg dry weight
	soil	-	1.41	mg/kg dry weight

	sewage treatment plant	-	10	mg/L
	secondary poisoning	-	52.7	mg/kg food
4	**7-hydroxycitronellal**		**107-75-5 203-518-7**	
	water	fresh water	31.6	µg/L
	water	marine water	3.16	µg/L
	soil	-	0.011	mg/kg dry weight
	sewage treatment plant	-	10	mg/L
5	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**		**3407-42-9 222-294-1**	
	water	fresh water	2.96	µg/L
	water	fresh water sediment	72.5	µg/kg dry weight
	water	marine water	0.296	µg/L
	water	marine water sediment	7.25	µg/kg dry weight
	soil	-	12.8	µg/kg dry weight
	sewage treatment plant	-	0.1	mg/L

8.2 Exposure controls

Appropriate engineering controls
Ensure adequate ventilation, local exhaust at the work station if necessary.

Personal protective equipment

Respiratory protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. Combination filter (EN 14387), filter type A - brown; In case of aerosol, vapour and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Eye / face protection
Tightly fitting safety glasses (EN 166).

Hand protection
In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material	butyl rubber		
Material thickness		0.5	mm
Breakthrough time	>	480	min

Other
Normal chemical work clothing.

Environmental exposure controls
No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State of aggregation
liquid

Form
liquid

Colour
clear, colourless to slightly yellow

Odour
characteristic

pH value	
Value	5.4

Boiling point / boiling range
No data available

Melting point/freezing point
No data available

Decomposition temperature
No data available

Flash point	
Value	20 °C
Method	Abel Pensky, DIN 51755, PV 01194

Ignition temperature
No data available

Flammability
No data available

Lower explosion limit
No data available

Upper explosion limit
No data available

Vapour pressure
No data available

Relative vapour density
No data available

Relative density	
Value	0.976 - 0.986
Reference temperature	20 °C
Source	manufacturer

Density
No data available

Solubility
No data available

Partition coefficient n-octanol/water (log value)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**ethanol**	**64-17-5**	**200-578-6**
log Pow		-0.35	
Reference temperature		24	°C
with reference to	pH 7,4		
Method	OECD 107		
Source	ECHA		
2	**Citronellol**	**106-22-9**	**203-375-0**
log Pow		3.41	
Reference temperature		25	°C
Method	EEC A8		
Source	ECHA		
3	**Benzyl salicylate**	**118-58-1**	**204-262-9**
log Pow		4.0	
Reference temperature		35	°C
Method	OECD 117		
Source	ECHA		
4	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**
log Pow		1.68	
Reference temperature		25	°C
Method	OECD 107		

Source	ECHA			
5	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**		**222-294-1**
log Pow		4.64		
Reference temperature		25	°C	
Method	OECD 117			
Source	ECHA			

Kinematic viscosity
No data available

Particle characteristics
No data available

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Dangerous reactions are not expected if the product is handled according to its intended use.

10.2 Chemical stability
Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions
Generation of flammable vapor-air mixtures possible.

10.4 Conditions to avoid
Heat, naked flames and other ignition sources. Static discharges.

10.5 Incompatible materials
No data available.

10.6 Hazardous decomposition products
No data available.

SECTION 11: Toxicological information

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

Acute oral toxicity				
No	**Substance name**	**CAS no.**		**EC no.**
1	**ethanol**	**64-17-5**		**200-578-6**
LD50		10470		mg/kg bodyweight
Species	rat			
with reference to	95% ethanol in water			
Method	OECD 401			
Source	ECHA			
Evaluation/classification	Based on available data, the classification criteria are not met.			
2	**7-hydroxycitronellal**	**107-75-5**		**203-518-7**
LD50		>	6400	mg/kg bodyweight
Species	rat			
Method	OECD 401			
Source	ECHA			
Evaluation/classification	Based on available data, the classification criteria are not met.			
3	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**		**222-294-1**
LD50		>	2000	mg/kg bodyweight
Species	rat			
Method	OECD 423			
Source	ECHA			

Acute dermal toxicity				
No	**Substance name**	**CAS no.**	**EC no.**	
1	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**	
LD50		> 2000	mg/kg bodyweight	
Species		rabbit		
Source		ECHA		
Evaluation/classification		Based on available data, the classification criteria are not met.		
2	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**	**222-294-1**	
LD50		> 2000	mg/kg bodyweight	
Species		rat		
Method		OECD 402		
Source		ECHA		

Acute inhalational toxicity				
No	**Substance name**	**CAS no.**	**EC no.**	
1	**ethanol**	**64-17-5**	**200-578-6**	
LC50		124.7	mg/l	
Duration of exposure		4	h	
State of aggregation		Vapour		
Species		rat		
Method		OECD 403		
Source		ECHA		
Evaluation/classification		Based on available data, the classification criteria are not met.		

Skin corrosion/irritation				
No	**Substance name**	**CAS no.**	**EC no.**	
1	**ethanol**	**64-17-5**	**200-578-6**	
Species		rabbit		
Method		OECD 404		
Source		ECHA		
Evaluation		non-irritant		
Evaluation/classification		Based on available data, the classification criteria are not met.		
2	**Citronellol**	**106-22-9**	**203-375-0**	
Duration of exposure		4	h	
Species		rabbit		
Method		OECD 404		
Source		ECHA		
Evaluation		irritant		
Evaluation/classification		Based on available data, the classification criteria are met.		
3	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**	
Duration of exposure		4	h	
Species		rabbit		
Method		EU B.4		
Source		ECHA		
Evaluation		irritant		
4	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**	**222-294-1**	
Species		rabbit		
Method		OECD 404		
Source		ECHA		
Evaluation		non-irritant		
Evaluation/classification		Based on available data, the classification criteria are not met.		

Serious eye damage/irritation			
No	**Substance name**	**CAS no.**	**EC no.**
1	**ethanol**	**64-17-5**	**200-578-6**
Species		rabbit	
Method		OECD 405	
Source		ECHA	
Evaluation		irritant	
Evaluation/classification		Based on available data, the classification criteria are met.	
2	**Citronellol**	**106-22-9**	**203-375-0**

Species	rabbit
Method	OECD 405
Source	ECHA
Evaluation	irritant
Evaluation/classification	Based on available data, the classification criteria are met.

3	Benzyl salicylate	118-58-1	204-262-9

Species	rabbit
Method	OECD 437
Source	ECHA
Evaluation	irritant

4	7-hydroxycitronellal	107-75-5	203-518-7

Species	rabbit
Method	BASF-Test
Source	ECHA
Evaluation	non-irritant

5	3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol	3407-42-9	222-294-1

Species	rabbit
Method	OECD 405
Source	ECHA
Evaluation	Irritating to eyes
Evaluation/classification	Based on available data, the classification criteria are met.

Respiratory or skin sensitisation

No	Substance name	CAS no.	EC no.
1	ethanol	64-17-5	200-578-6

Route of exposure	respiratory tract
Source	ECHA
Evaluation	non-sensitizing
Evaluation/classification	Based on available data, the classification criteria are not met.
Route of exposure	Skin
Species	mouse
Source	ECHA
Evaluation	non-sensitizing
Evaluation/classification	Based on available data, the classification criteria are not met.

2	Citronellol	106-22-9	203-375-0

Route of exposure	Skin
Species	mouse
Method	OECD 429
Source	ECHA
Evaluation	sensitizing
Evaluation/classification	Based on available data, the classification criteria are met.

3	Benzyl salicylate	118-58-1	204-262-9

Route of exposure	Skin
Species	mouse
Method	OECD 429
Source	ECHA
Evaluation	sensitizing

4	7-hydroxycitronellal	107-75-5	203-518-7

Route of exposure	Skin
Species	mouse
Method	OECD 429
Source	ECHA
Evaluation	sensitizing

Germ cell mutagenicity

No	Substance name	CAS no.	EC no.
1	ethanol	64-17-5	200-578-6

Type of examination	in vitro gene mutation study in bacteria
Species	Salmonella typhimurium
Method	OECD 471
Source	ECHA

Evaluation/classification	Based on available data, the classification criteria are not met.
Type of examination	in vitro gene mutation study in mammalian cells
Species	mouse lymphoma cells
Method	OECD 476
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.
Type of examination	Genotoxicity in vivo
Species	mouse
Method	OECD 478
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

2	Citronellol	106-22-9	203-375-0
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

3	7-hydroxycitronellal	107-75-5	203-518-7
Method	OECD 476		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Reproduction toxicity

No	Substance name	CAS no.	EC no.
1	ethanol	64-17-5	200-578-6

Route of exposure	oral		
NOAEL			
Type of examination	2 generation study		
Species	mouse		
Method	OECD 416		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
Route of exposure	inhalational		
NOAEL	>=	20000	ppm
Type of examination	Prenatal Developmental Toxicity Study		
Species	rat		
Method	OECD 414		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

2	Citronellol	106-22-9	203-375-0
Route of exposure	oral		
NOAEL	>=	750	mg/kg bw/d
Type of examination	Prenatal Developmental Toxicity Study		
Species	rat		
Method	OECD 414		
Evaluation/classification	Based on available data, the classification criteria are not met.		

3	7-hydroxycitronellal	107-75-5	203-518-7
Method	OECD 422		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Carcinogenicity

No	Substance name	CAS no.	EC no.
1	ethanol	64-17-5	200-578-6

Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

2	Citronellol	106-22-9	203-375-0
Method	US NIH, National Toxicology Program (NTP)		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

STOT - single exposure

No data available

STOT - repeated exposure

No	Substance name	CAS no.	EC no.

1	ethanol	64-17-5	200-578-6
Route of exposure	oral		
Duration of exposure	14	week/s	
Species	rat		
Target organ	kidneys		
Method	OECD 408		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**
Method	OECD 422		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Aspiration hazard
No data available

11.2 Information on other hazards

Endocrine disrupting properties
No data available

Other information
No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**ethanol**	**64-17-5**	**200-578-6**
LC50	14200	mg/l	
Duration of exposure	96	h	
Species	Pimephales promelas		
Method	EPA		
Source	ECHA		
2	**Citronellol**	**106-22-9**	**203-375-0**
LC50	14.66	mg/l	
Duration of exposure	96	h	
Species	Leuciscus idus		
Method	DIN 38412 Part 15		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
3	**Benzyl salicylate**	**118-58-1**	**204-262-9**
LC50	1.03	mg/l	
Duration of exposure	96	h	
Species	Brachydanio rerio		
Method	440/2008/EC C.1.		
Source	ECHA		
4	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**
LC50	31.6	mg/l	
Duration of exposure	96	h	
Species	Leuciscus idus		
Method	DIN 38412		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Toxicity to fish (chronic)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**	**222-294-1**
NOEC	0.156	mg/l	
Duration of exposure	30	day(s)	
Species	Danio rerio		

Method	OECD 210
Source	ECHA

Toxicity to Daphnia (acute)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**ethanol**	**64-17-5**	**200-578-6**
EC50		5012	mg/l
Duration of exposure		48	h
Species	Ceriodaphnia dubia		
Method	ASTM Standard E 729-80		
Source	ECHA		
2	**Citronellol**	**106-22-9**	**203-375-0**
EC50		17.48	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	EEC 78/831		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
3	**Benzyl salicylate**	**118-58-1**	**204-262-9**
EC50		2.25	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
4	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**
EC50		410	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	EEC 79/831		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
5	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**	**222-294-1**
EC50		2.59	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		

Toxicity to Daphnia (chronic)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**ethanol**	**64-17-5**	**200-578-6**
NOEC		9.6	mg/l
Duration of exposure		9	day(s)
Species	Daphnia magna		
Source	ECHA		
2	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**	**222-294-1**
NOEC		0.3125	mg/l
Duration of exposure		21	day(s)
Species	Daphnia magna		
Method	OECD 211		
Source	ECHA		

Toxicity to algae (acute)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**ethanol**	**64-17-5**	**200-578-6**
EC50		275	mg/l
Duration of exposure		72	h
Species	Chlorella vulgaris		
Method	OECD 201		
Source	ECHA		
2	**Citronellol**	**106-22-9**	**203-375-0**

EC50		2.4	mg/l
Duration of exposure		72	h
Species	Scenedesmus subspicatus		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
3	**Benzyl salicylate**	**118-58-1**	**204-262-9**
ErC50		1.29	mg/l
Duration of exposure		72	h
Species	Selenastrum capricornutum		
Method	OECD 201		
Source	ECHA		
4	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**
EC50		123.32	mg/l
Duration of exposure		72	h
Species	Desmodesmus subspicatus		
Method	OECD 201		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Toxicity to algae (chronic)
No data available

Bacteria toxicity			
No	**Substance name**	**CAS no.**	**EC no.**
1	**Citronellol**	**106-22-9**	**203-375-0**
EC50	>	10000	mg/l
Duration of exposure		30	min
Species	Pseudomonas putida		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

12.2 Persistence and degradability

Biodegradability			
No	**Substance name**	**CAS no.**	**EC no.**
1	**ethanol**	**64-17-5**	**200-578-6**
Type	aerobic biodegradation		
Value	appr.	84	%
Duration		20	day(s)
Source	ECHA		
Evaluation	readily biodegradable		
2	**Citronellol**	**106-22-9**	**203-375-0**
Type	aerobic biodegradation		
Value	80 -	90	%
Duration		28	day(s)
Method	EEC 79/831		
Source	ECHA		
Evaluation	readily biodegradable		
3	**Benzyl salicylate**	**118-58-1**	**204-262-9**
Type	aerobic biodegradation		
Value		93	%
Method	OECD 301 F		
Source	ECHA		
4	**7-hydroxycitronellal**	**107-75-5**	**203-518-7**
Type	aerobic biodegradation		
Value	80 -	90	%
Duration		28	day(s)
Method	OECD 301 F		
Source	ECHA		
Evaluation	readily biodegradable		
5	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**	**222-294-1**
Type	aerobic biodegradation		

Value		13.81	%
Duration		28	day(s)
Method	OECD 301 D		
Source	ECHA		
Evaluation	not readily biodegradable		

12.3 Bioaccumulative potential

Bioconcentration factor (BCF)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**Benzyl salicylate**	**118-58-1**	**204-262-9**
BCF		202	
Method	QSAR		
Source	ECHA		

Partition coefficient n-octanol/water (log value)				
No	**Substance name**	**CAS no.**		**EC no.**
1	**ethanol**	**64-17-5**		**200-578-6**
log Pow		-0.35		
Reference temperature		24	°C	
with reference to	pH 7,4			
Method	OECD 107			
Source	ECHA			
2	**Citronellol**	**106-22-9**		**203-375-0**
log Pow		3.41		
Reference temperature		25	°C	
Method	EEC A8			
Source	ECHA			
3	**Benzyl salicylate**	**118-58-1**		**204-262-9**
log Pow		4.0		
Reference temperature		35	°C	
Method	OECD 117			
Source	ECHA			
4	**7-hydroxycitronellal**	**107-75-5**		**203-518-7**
log Pow		1.68		
Reference temperature		25	°C	
Method	OECD 107			
Source	ECHA			
5	**3-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)cyclohexan-1-ol**	**3407-42-9**		**222-294-1**
log Pow		4.64		
Reference temperature		25	°C	
Method	OECD 117			
Source	ECHA			

12.4 Mobility in soil

Results of PMT and vPvM assessment			
No	**Substance name**	**CAS no.**	**EC no.**
1	**Citronellol**	**106-22-9**	**203-375-0**
PMT assessment	The substance is not PMT.		
vPvM assessment	The substance is not vPvM.		
Source	ECHA		

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
Product Name	
LINARI-FIORE	
PBT assessment	The components of this product are not considered to be PBT (PBT = persistent, bioaccumulative, toxic) according to Annex XIII of Regulation (EC) 1907/2006 (REACH).
vPvB assessment	The components of this product are not considered to be vPvB (vPvB = very persistent, very bioaccumulative) according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

No	Substance name	CAS no.	EC no.
1	Citronellol	106-22-9	203-375-0
PBT assessment		The substance is not PBT.	
vPvB assessment		The substance is not vPvB.	
Source		ECHA	

12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
In accordance with regulations for special waste, must be taken to a special waste disposal.

Packaging
Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN1266
IMDG	UN1266
ICAO-TI / IATA	UN1266

14.2 UN proper shipping name

ADR/RID/ADN	PERFUMERY PRODUCTS
IMDG	PERFUMERY PRODUCTS
ICAO-TI / IATA	Perfumery products

14.3 Transport hazard class(es)

ADR/RID/ADN - Class	3
Label	3
Classification code	F1
Tunnel restriction code	D/E
Hazard identification no.	33
Special Provision 640	640D
IMDG - Class	3
Label	3
ICAO-TI / IATA - Class	3
Label	3

14.4 Packing group

ADR/RID/ADN	II
IMDG	II
ICAO-TI / IATA	II

14.5 Environmental hazards

EmS	F-E, S-D

14.6 Special precautions for user
No data available.

14.7 Maritime transport in bulk according to IMO instruments
Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)
According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation			
The product contains following substance(s) meeting the criteria in Article 57 in association with Article 59 of the REACH regulation ((EC) 1907/2006) that are placed on the list of candidates considered for inclusion in annex XIV (substances subject to Authorisation).			
No	**Substance name**	**CAS no.**	**EC no.**
1	**2-(4-tert-butylbenzyl) propionaldehyde**	**80-54-6**	**201-289-8**

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES				
The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.				No 3, 40
The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.				
No	**Substance name**	**CAS no.**	**EC no.**	**No**
1	**2-(4-tert-butylbenzyl) propionaldehyde**	**80-54-6**	**201-289-8**	**30, 75**
2	**alpha-methyl-1,3-benzodioxole-5-propionaldehyde**	**1205-17-0**	**214-881-6**	**75**
3	**Benzyl salicylate**	**118-58-1**	**204-262-9**	**75**
4	**geraniol**	**106-24-1**	**203-377-1**	**75**
5	**linalool**	**78-70-6**	**201-134-4**	**75**
6	**tetrahydro-2-isobutyl-4-methylpyran-4-ol, mixed isomers (cis and trans)**	**63500-71-0**	**405-040-6**	**75**

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances	
This product is subject to Part I of Annex I, risk category:	P5b

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

SECTION 16: Other information

Sources of key data used to compile the data sheet:
Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.
Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.
National Threshold Limit Values of the corresponding countries as amended in each case.
Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:
Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP
Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

Creation of the safety data sheet
UMCO GmbH - D-21107 Hamburg, Georg-Wilhelm-Strasse 187, Tel.: +49(40)555 546 300, Fax: +49(40)555 546 357, e-mail: umco@umco.de

This information is based on our present knowledge and experience.
The safety data sheet describes products with a view to safety requirements.
It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Copyright-protected document. Any changes or reproductions require the express consent of UMCO GmbH.
Prod-ID 724533