SAFETY DATA SHEET

Version #: 01
Issue date: 02-November-2021

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

1.1. Product identifier

Trade name or designation of the mixture	MILLEFIORI ZONA DIFFUSORE A STICK 100ml ARIA MEDITERRANEA 41MDAM
Registration number	-
Synonyms	None.
Product code	41MDAM

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

Identified uses	General Public
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	Home Fragrance Italia
Address	Via A. Tonale 26 Milano 20125 IT
Division	
Telephone	
e-mail	Not available.
Contact person	Not available.

1.4. Emergency telephone number

1.4. Emergency telephone number

General in EU	112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Austria National Poisons Information Centre	+431 406 4343 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Belgium National Poisons Control Center	070 245 245 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Bulgaria National Toxicological Information Centre	+359 2 9154233 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Czech Republic National Poisons Information Centre	+420 224 919 293, or +420 224 915 402 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Denmark National Poisons Control Center	+45 82 12 12 12 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Estonia National Poisons Information Centre	16662 or abroad: (+372) 626 9390 (Monday 9:00AM to Saturday 9:00AM (closed on Sundays and on national holidays). SDS/Product information may not be available for the Emergency Service.)
Finland National Poison Information Center	(09) 471 977 (direct) or (09) 4711 (exchange) (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
France National Poisons Control Center	ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Hungary National Emergency Phone Number	36 80 20 11 99 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Lithuania Neatidėliotina informacija apsinuodijus	+370 5 236 20 52 or +37068753378 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)

1.4. Emergency telephone number

Malta Accident and Emergency Department	2545 4030 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Netherlands National Poisons Information Center (NVIC)	030-274 88 88 (Only for the purpose of informing medical personnel in cases of acute intoxications)
Norway Norwegian Poison Information Center	22 59 13 00 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Portugal Poison Centre	800 250 250 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Romania Biroul RSI si Informare Toxicologica	021.318.36.06 (Available 8:00AM-3:00PM. SDS/Product information may not be available for the Emergency Service.)
Slovakia National Toxicological Information Centre	+421 2 5477 4166 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Sweden National Poison Information Center	112 - and ask for Poison Information (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Switzerland Tox Info Suisse	145 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards		
Flammable liquids	Category 2	H225 - Highly flammable liquid and vapour.
Health hazards		
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Environmental hazards		
Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.

Hazard summary May be ignited by heat, sparks or flames. Causes serious eye irritation. May cause an allergic skin reaction. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: (.+-.)-1-methyl-4-(1-methylvinyl)cyclohexene, 1-(2,3,8,8-tetramethyl-1,3,4,6,7,8a-hexahydronaphthalen-2-yl)ethanone, 1-(2,3,8,8-tetramethyl-1,3,5,6,7,8a-hexahydronaphthalen-2-yl)ethanone, 2,4-Dimethyl-3-cyclohexene carboxaldehyde, 2-methyl-5-propan-2-ylphenol, 3-Octanol, 3,7-dimethyl-, Acetylcedrene, alpha-Pinene, Benzoic acid, 2,4-dihydroxy-3,6-dimethyl-, methyl ester, beta-Caryophyllene, beta-Pinene, cis-4-(Isopropyl)cyclohexanemethanol, Citral, Citronellal, Citronellol, Coumarin, Cyclododecane, (ethoxymethoxy)-, d-Limonene, Eucalyptol, Geraniol, Geranyl acetate, Hexyl Cinnamal, Hydroxycitronellal, Isocyclemone E, Linalool, Linalyl acetate, Methylenedioxyphenyl methylpropanal, Nerol, Neryl acetate, Oils, clove, Oils, guaiac wood, Oils, turpentine, Pentadecalactone, trans-Rose Ketone-1

Hazard pictograms

Signal word Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.

Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage

P403	Store in a well-ventilated place.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information 11,66 % of the mixture consists of component(s) of unknown acute oral toxicity. 11,66 % of the mixture consists of component(s) of unknown acute dermal toxicity. 11,66 % of the mixture consists of component(s) of unknown acute inhalation toxicity. 11,66 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 11,66 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Ethanol	60 - 70	64-17-5 200-578-6	-	603-002-00-5	
Classification: Flam. Liq. 2;H225, Eye Irrit. 2;H319					
1-Butanol, 3-methoxy-3-methyl-	10 - 20	56539-66-3 260-252-4	-	-	
Classification: Eye Irrit. 2;H319					
d-Limonene	1 - 3	5989-27-5 227-813-5	-	601-029-00-7	
Classification: Flam. Liq. 3;H226, Skin Irrit. 2;H315, Skin Sens. 1;H317, Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					C
Linalyl acetate	1 - 3	115-95-7 204-116-4	-	-	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1B;H317					
Acetylcedrene	≤ 1	32388-55-9 251-020-3	-	-	
Classification: Skin Sens. 1B;H317, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
alpha-Pinene	≤ 1	80-56-8 201-291-9	-	-	
Classification: Flam. Liq. 3;H226, Acute Tox. 4;H302;(ATE: 500 mg/kg), Skin Irrit. 2;H315, Skin Sens. 1B;H317, Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
Geraniol	≤ 1	106-24-1 203-377-1	-	603-241-00-5	
Classification: Skin Irrit. 2;H315, Eye Dam. 1;H318, Skin Sens. 1;H317, Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 2;H411					
Hexyl Cinnamal	≤ 1	101-86-0 202-983-3	-	-	
Classification: Skin Sens. 1B;H317, Aquatic Acute 1;H400, Aquatic Chronic 2;H411					
Isocyclemone E	≤ 1	54464-57-2 259-174-3	-	-	
Classification: Skin Irrit. 2;H315, Skin Sens. 1B;H317, Aquatic Chronic 1;H410					

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Linalool	≤ 1	78-70-6 201-134-4	-	603-235-00-2	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1B;H317					
Neryl acetate	≤ 1	141-12-8 205-459-2	-	-	
Classification: Skin Sens. 1B;H317, Aquatic Chronic 3;H412					
Oxacyclohexadec-12-en-2-one, (12E)-	≤ 1	111879-80-2 422-320-3	-	-	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 2;H411					
beta-Caryophyllene	≤ 0,3	87-44-5 201-746-1	-	-	
Classification: Eye Irrit. 2;H319, Skin Sens. 1;H317, Asp. Tox. 1;H304, Aquatic Chronic 1;H410					
(.+-.)-1-methyl-4-(1-methylvinyl)cyclohexene	≤ 0,2	7705-14-8 231-732-0	-	601-029-00-7	
Classification: Flam. Liq. 3;H226, Skin Irrit. 2;H315, Skin Sens. 1;H317, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					C
(±) trans—3,3-dimethyl-5-(2,2,3-trimethyl-cyclopent-3-en-1-yl)-pent-4-en-2-ol	≤ 0,2	107898-54-4 411-580-3	-	603-150-00-0	
Classification: Skin Irrit. 2;H315, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
1-(2,3,8,8-tetramethyl-1,3,4,6,7,8a-hexahydronaphthalen-2-yl)ethanone	≤ 0,2	68155-67-9 268-979-9	-	-	
Classification: Skin Irrit. 2;H315, Skin Sens. 1B;H317, Aquatic Chronic 1;H410					
1-(2,3,8,8-tetramethyl-1,3,5,6,7,8a-hexahydronaphthalen-2-yl)ethanone	≤ 0,2	68155-66-8 268-978-3	-	-	
Classification: Skin Irrit. 2;H315, Skin Sens. 1B;H317, Aquatic Chronic 1;H410					
1-(6-tert-butyl-1,1-dimethyl-2,3-dihydroinden-4-yl)ethanone	≤ 0,2	13171-00-1 236-114-4	-	-	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	≤ 0,2	99-85-4 202-794-6	-	-	
Classification: Flam. Liq. 3;H226, Repr. 2;H361, Asp. Tox. 1;H304					
2,4-Dimethyl-3-cyclohexene carboxaldehyde	≤ 0,2	68039-49-6 268-264-1	-	-	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1B;H317, Aquatic Chronic 2;H411					
2-methyl-5-propan-2-ylphenol	≤ 0,2	499-75-2 207-889-6	-	-	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg), Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1B;H317					
3-Octanol, 3,7-dimethyl-	≤ 0,2	78-69-3 201-133-9	-	-	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1B;H317					
alpha-Cedrene	≤ 0,2	469-61-4 207-418-4	-	-	
Classification: Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
Benzene, 1-methyl-4-(1-methylethyl)-	≤ 0,2	99-87-6 202-796-7	-	-	
Classification: Flam. Liq. 3;H226, Repr. 2;H361, Asp. Tox. 1;H304, Aquatic Chronic 2;H411					
Benzoic acid, 2,4-dihydroxy-3,6-dimethyl-, methyl ester	≤ 0,2	4707-47-5 225-193-0	-	-	
Classification: Skin Sens. 1B;H317					

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
beta-Pinene	≤ 0,2	127-91-3 204-872-5	-	-	
Classification: Flam. Liq. 3;H226, Skin Irrit. 2;H315, Skin Sens. 1B;H317, Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-	≤ 0,2	79-92-5 201-234-8	-	-	
Classification: Flam. Sol. 2;H228, Eye Irrit. 2;H319, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
cis-4-(Isopropyl)cyclohexanemethanol	≤ 0,2	13828-37-0 237-539-8	-	-	
Classification: Skin Irrit. 2;H315, Skin Sens. 1B;H317					
Citral	≤ 0,2	5392-40-5 226-394-6	-	605-019-00-3	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1;H317					
Citronellal	≤ 0,2	106-23-0 203-376-6	-	-	
Classification: Skin Irrit. 2;H315, Eye Dam. 1;H318, Skin Sens. 1;H317, Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 2;H411					
Citronellol	≤ 0,2	106-22-9 203-375-0	-	-	
Classification: Skin Irrit. 2;H315, Eye Dam. 1;H318, Skin Sens. 1;H317, Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 2;H411					
Coumarin	≤ 0,2	91-64-5 202-086-7	-	-	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg), Skin Sens. 1B;H317					
Cyclododecane, (ethoxymethoxy)-	≤ 0,2	58567-11-6 261-332-1	-	-	
Classification: Skin Irrit. 2;H315, Skin Sens. 1B;H317, Aquatic Chronic 2;H411					
Ethanone, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl)-	≤ 0,2	1506-02-1 216-133-4	-	-	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg), Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
Eucalyptol	≤ 0,2	470-82-6 207-431-5	-	-	
Classification: Flam. Liq. 3;H226, Eye Irrit. 2;H319, Skin Sens. 1B;H317					
Galaxolide	≤ 0,2	1222-05-5 214-946-9	-	603-212-00-7	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
Geranyl acetate	≤ 0,2	105-87-3 203-341-5	-	-	
Classification: Skin Irrit. 2;H315, Eye Dam. 1;H318, Skin Sens. 1;H317, Asp. Tox. 1;H304, Aquatic Acute 1;H400, Aquatic Chronic 2;H411					
Hydroxycitronellal	≤ 0,2	107-75-5 203-518-7	-	-	
Classification: Eye Irrit. 2;H319, Skin Sens. 1B;H317					
Methylenedioxyphenyl methylpropanal	≤ 0,2	1205-17-0 214-881-6	-	-	
Classification: Skin Sens. 1B;H317, Repr. 2;H361, Aquatic Chronic 2;H411					
Nerol	≤ 0,2	106-25-2 203-378-7	-	-	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1B;H317					
Oils, clove	≤ 0,2	8000-34-8 616-772-2	-	-	
Classification: Eye Irrit. 2;H319, Skin Sens. 1B;H317, Asp. Tox. 1;H304					

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Oils, guaiac wood	≤ 0,2	8016-23-7 616-975-6	-	-	
Classification: Skin Irrit. 2;H315, Skin Sens. 1B;H317, Aquatic Chronic 2;H411					
Oils, turpentine	≤ 0,2	8006-64-2 232-350-7	-	650-002-00-6	
Classification: Flam. Liq. 3;H226, Acute Tox. 4;H302;(ATE: 500 mg/kg), Acute Tox. 4;H312;(ATE: 1100 mg/kg), Acute Tox. 4;H332;(ATE: 11 mg/l), Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1;H317, Asp. Tox. 1;H304, Aquatic Chronic 2;H411					
Oxacycloheptadec-10-en-2-one	≤ 0,2	28645-51-4 249-120-7	-	-	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
Pentadecalactone	≤ 0,2	106-02-5 203-354-6	-	-	
Classification: Skin Sens. 1B;H317, Aquatic Chronic 2;H411					
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	≤ 0,2	128-37-0 204-881-4	-	-	
Classification: Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
trans-Rose Ketone-1	≤ 0,2	24720-09-0 246-430-4	-	-	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg), Skin Sens. 1B;H317, Aquatic Chronic 2;H411					
Other components below reportable levels	7.72				

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.
M: M-factor
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. #: This substance has been assigned Union workplace exposure limit(s).

Composition comments The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed Headache. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. May cause an allergic skin reaction. Dermatitis. Rash.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards Highly flammable liquid and vapour.

5.1. Extinguishing media

Suitable extinguishing media Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO_2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
For emergency responders	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Avoid breathing mist/vapours. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).
7.3. Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value
Ethanol (CAS 64-17-5)	Ceiling	3800 mg/m3
		2000 ppm
	MAK	1900 mg/m3
		1000 ppm
Ethanol, 2-(2-ethoxyethoxy)- (CAS 111-90-0)	MAK	35 mg/m3
		6 ppm
	STEL	140 mg/m3

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value
		24 ppm
Oils, turpentine (CAS 8006-64-2)	Ceiling	560 mg/m3
		100 ppm
	MAK	560 mg/m3
		100 ppm
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	MAK	10 mg/m3

Belgium. Exposure Limit Values

Components	Type	Value	Form
alpha-Pinene (CAS 80-56-8)	TWA	20 ppm	
beta-Pinene (CAS 127-91-3)	TWA	20 ppm	
Citral (CAS 5392-40-5)	TWA	32 mg/m3	Vapour and aerosol.
		5 ppm	Vapour and aerosol.
Ethanol (CAS 64-17-5)	TWA	1907 mg/m3	
		1000 ppm	
Oils, turpentine (CAS 8006-64-2)	TWA	20 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	2 mg/m3	Vapour and aerosol.

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
alpha-Cedrene (CAS 469-61-4)	TWA	3,5 mg/m3	Inhalable fraction.
Ethanol (CAS 64-17-5)	TWA	1000 mg/m3	
Oils, turpentine (CAS 8006-64-2)	TWA	300 mg/m3	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	STEL	50 mg/m3	
	TWA	10 mg/m3	

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value
Ethanol (CAS 64-17-5)	MAC	1900 mg/m3
		1000 ppm
Oils, turpentine (CAS 8006-64-2)	MAC	566 mg/m3
		100 ppm
	STEL	850 mg/m3
		150 ppm
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	MAC	10 mg/m3

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value
alpha-Cedrene (CAS 469-61-4)	TWA	0,2 mg/m3

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
1-Butanol, 3-methoxy-3-methyl- (CAS 56539-66-3)	Ceiling	200 mg/m3	
	TWA	100 mg/m3	
alpha-Cedrene (CAS 469-61-4)	TWA	2 mg/m3	Dust.
Ethanol (CAS 64-17-5)	Ceiling	3000 mg/m3	
	TWA	1000 mg/m3	
Oils, turpentine (CAS 8006-64-2)	Ceiling	800 mg/m3	Vapour.
	TWA	300 mg/m3	Vapour.

Denmark. Exposure Limit Values

Components	Type	Value
alpha-Pinene (CAS 80-56-8)	TLV	25 ppm
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)	TLV	135 mg/m3
		25 ppm
beta-Pinene (CAS 127-91-3)	TLV	25 ppm
d-Limonene (CAS 5989-27-5)	TLV	25 ppm
Ethanol (CAS 64-17-5)	TLV	1900 mg/m3
		1000 ppm
Oils, turpentine (CAS 8006-64-2)	TLV	140 mg/m3
		25 ppm
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TLV	10 mg/m3

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Components	Type	Value
alpha-Pinene (CAS 80-56-8)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)	STEL	190 mg/m3
		35 ppm
	TWA	140 mg/m3
		25 ppm
beta-Pinene (CAS 127-91-3)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm
Ethanol (CAS 64-17-5)	STEL	1900 mg/m3
		1000 ppm
	TWA	1000 mg/m3
		500 ppm
Ethanol, 2-(2-ethoxyethoxy)- (CAS 111-90-0)	TWA	50,1 mg/m3

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Components	Type	Value
		10 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm

Finland. Workplace Exposure Limits

Components	Type	Value
d-Limonene (CAS 5989-27-5)	STEL	280 mg/m3
		50 ppm
	TWA	140 mg/m3
		25 ppm
Ethanol (CAS 64-17-5)	STEL	2500 mg/m3
		1300 ppm
	TWA	1900 mg/m3
		1000 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	280 mg/m3
		50 ppm
	TWA	140 mg/m3
		25 ppm
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	STEL	20 mg/m3
	TWA	10 mg/m3

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
Ethanol (CAS 64-17-5)	VLE	9500 mg/m3
Regulatory status: Indicative limit (VL)		
		5000 ppm
Regulatory status: Indicative limit (VL)		
	VME	1900 mg/m3
Regulatory status: Indicative limit (VL)		
		1000 ppm
Regulatory status: Indicative limit (VL)		
Oils, turpentine (CAS 8006-64-2)	VME	560 mg/m3
Regulatory status: Indicative limit (VL)		
		100 ppm
Regulatory status: Indicative limit (VL)		
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	VME	10 mg/m3
Regulatory status: Indicative limit (VL)		

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
d-Limonene (CAS 5989-27-5)	TWA	28 mg/m3	
		5 ppm	
Ethanol (CAS 64-17-5)	TWA	380 mg/m3	
		200 ppm	

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Ethanol, 2-(2-ethoxyethoxy)- (CAS 111-90-0)	TWA	50 mg/m3	Vapor and aerosol, inhalable fraction.
Oils, turpentine (CAS 8006-64-2)	TWA	28 mg/m3	
		5 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	10 mg/m3	Vapor and aerosol, inhalable fraction.
Propanol, oxybis- (CAS 25265-71-8)	TWA	100 mg/m3	Vapor and aerosol, inhalable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)	AGW	100 mg/m3	
d-Limonene (CAS 5989-27-5)	AGW	28 mg/m3	
		5 ppm	
Ethanol (CAS 64-17-5)	AGW	380 mg/m3	
		200 ppm	
Ethanol, 2-(2-ethoxyethoxy)- (CAS 111-90-0)	AGW	35 mg/m3	Vapour and aerosol.
		6 ppm	Vapour and aerosol.
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	AGW	10 mg/m3	Inhalable fraction.
Propanol, oxybis- (CAS 25265-71-8)	AGW	100 mg/m3	Inhalable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	840 mg/m3
		150 ppm
	TWA	560 mg/m3
		100 ppm
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	10 mg/m3

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Ethanol (CAS 64-17-5)	STEL	3800 mg/m3
	TWA	1900 mg/m3

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
alpha-Cedrene (CAS 469-61-4)	TWA	0,2 mg/m3	Particulate.
		0,2 mg/m3	
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)	TWA	135 mg/m3	
		25 ppm	

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3	
		1000 ppm	
Oils, turpentine (CAS 8006-64-2)	TWA	140 mg/m3	
		25 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	10 mg/m3	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Citral (CAS 5392-40-5)	TWA	5 ppm	Inhalable fraction and vapour.
Ethanol (CAS 64-17-5)	STEL	1000 ppm	
Oils, turpentine (CAS 8006-64-2)	STEL	840 mg/m3	
		150 ppm	
	TWA	112 mg/m3	
		20 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	2 mg/m3	

Italy. Occupational Exposure Limits

Components	Type	Value	Form
alpha-Pinene (CAS 80-56-8)	TWA	20 ppm	
beta-Pinene (CAS 127-91-3)	TWA	20 ppm	
Citral (CAS 5392-40-5)	TWA	5 ppm	Inhalable fraction and vapour.
Ethanol (CAS 64-17-5)	STEL	1000 ppm	
Oils, turpentine (CAS 8006-64-2)	TWA	20 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
alpha-Cedrene (CAS 469-61-4)	TWA	4 mg/m3	Dust.
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)	TWA	10 mg/m3	
Ethanol (CAS 64-17-5)	TWA	1000 mg/m3	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value
alpha-Pinene (CAS 80-56-8)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)	STEL	190 mg/m3
		35 ppm
	TWA	140 mg/m3
		25 ppm

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value
beta-Pinene (CAS 127-91-3)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm
Ethanol (CAS 64-17-5)	STEL	1900 mg/m3
		1000 ppm
	TWA	1000 mg/m3
		500 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm

Netherlands. OELs (binding)

Components	Type	Value
alpha-Cedrene (CAS 469-61-4)	TWA	550 ng/m3
Ethanol (CAS 64-17-5)	STEL	1900 mg/m3
	TWA	260 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
alpha-Cedrene (CAS 469-61-4)	TLV	0,04 mg/m3
alpha-Pinene (CAS 80-56-8)	TLV	140 mg/m3
		25 ppm
beta-Pinene (CAS 127-91-3)	TLV	140 mg/m3
		25 ppm
d-Limonene (CAS 5989-27-5)	TLV	140 mg/m3
		25 ppm
Ethanol (CAS 64-17-5)	TLV	950 mg/m3
		500 ppm
Oils, turpentine (CAS 8006-64-2)	TLV	140 mg/m3
		25 ppm

Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Components	Type	Value
alpha-Cedrene (CAS 469-61-4)	TWA	0,002 mg/m3
		0 ppm
Citral (CAS 5392-40-5)	STEL	54 mg/m3
		0 ppm
	TWA	27 mg/m3
		0 ppm
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		0 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	300 mg/m3
		0 ppm

Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Components	Type	Value
	TWA	112 mg/m3
		0 ppm

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
alpha-Pinene (CAS 80-56-8)	TWA	20 ppm	
beta-Pinene (CAS 127-91-3)	TWA	20 ppm	
Citral (CAS 5392-40-5)	TWA	5 ppm	Inhalable fraction and vapour.
Ethanol (CAS 64-17-5)	TWA	1000 ppm	
Oils, turpentine (CAS 8006-64-2)	TWA	20 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value
alpha-Cedrene (CAS 469-61-4)	TWA	0,2 mg/m3
Ethanol (CAS 64-17-5)	STEL	9500 mg/m3
		5000 ppm
	TWA	1900 mg/m3
		1000 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	500 mg/m3
	TWA	400 mg/m3

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value
Ethanol (CAS 64-17-5)	STEL	1920 mg/m3
		1000 ppm
	TWA	960 mg/m3
		500 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	850 mg/m3
		150 ppm
	TWA	560 mg/m3
		100 ppm

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
d-Limonene (CAS 5989-27-5)	TWA	28 mg/m3	
		5 ppm	
Ethanol (CAS 64-17-5)	TWA	960 mg/m3	
		500 ppm	
Ethanol, 2-(2-ethoxyethoxy)- (CAS 111-90-0)	TWA	35 mg/m3	
		6 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	10 mg/m3	Inhalable fraction.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Propanol, oxybis- (CAS 25265-71-8)	TWA	100 mg/m3	Inhalable fraction.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
alpha-Pinene (CAS 80-56-8)	TWA	113 mg/m3	
		20 ppm	
beta-Pinene (CAS 127-91-3)	TWA	113 mg/m3	
		20 ppm	
Citral (CAS 5392-40-5)	TWA	5 ppm	Inhalable fraction and vapour.
d-Limonene (CAS 5989-27-5)	TWA	168 mg/m3	
		30 ppm	
Ethanol (CAS 64-17-5)	STEL	1910 mg/m3	
		1000 ppm	
Oils, turpentine (CAS 8006-64-2)	TWA	113 mg/m3	
		20 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	10 mg/m3	

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Components	Type	Value
alpha-Pinene (CAS 80-56-8)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)	STEL	190 mg/m3
		35 ppm
	TWA	140 mg/m3
		25 ppm
beta-Pinene (CAS 127-91-3)	STEL	300 mg/m3
		50 ppm
	TWA	150 mg/m3
		25 ppm
Ethanol (CAS 64-17-5)	STEL	1900 mg/m3
		1000 ppm
	TWA	1000 mg/m3
		500 ppm
Ethanol, 2-(2-ethoxyethoxy)- (CAS 111-90-0)	STEL	170 mg/m3
		30 ppm
	TWA	80 mg/m3
		15 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	300 mg/m3
		50 ppm

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Components	Type	Value
	TWA	150 mg/m3
		25 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
alpha-Pinene (CAS 80-56-8)	STEL	224 mg/m3	
		40 ppm	
	TWA	112 mg/m3	
		20 ppm	
beta-Pinene (CAS 127-91-3)	STEL	224 mg/m3	
		40 ppm	
	TWA	112 mg/m3	
		20 ppm	
Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene- (CAS 79-92-5)	STEL	224 mg/m3	
		40 ppm	
	TWA	112 mg/m3	
		20 ppm	
d-Limonene (CAS 5989-27-5)	STEL	80 mg/m3	
		14 ppm	
	TWA	40 mg/m3	
		7 ppm	
Ethanol (CAS 64-17-5)	STEL	1920 mg/m3	
		1000 ppm	
	TWA	960 mg/m3	
		500 ppm	
Ethanol, 2-(2-ethoxyethoxy)- (CAS 111-90-0)	STEL	100 mg/m3	Vapor and aerosol, inhalable.
	TWA	50 mg/m3	Vapor and aerosol, inhalable.
Oils, turpentine (CAS 8006-64-2)	STEL	224 mg/m3	
		40 ppm	
	TWA	112 mg/m3	
		20 ppm	
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	STEL	40 mg/m3	Vapor and aerosol, inhalable.
	TWA	10 mg/m3	Vapor and aerosol, inhalable.
Propanol, oxybis- (CAS 25265-71-8)	STEL	280 mg/m3	Vapor and aerosol, inhalable.
	TWA	140 mg/m3	Vapor and aerosol, inhalable.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Ethanol (CAS 64-17-5)	TWA	1920 mg/m3
		1000 ppm
Oils, turpentine (CAS 8006-64-2)	STEL	850 mg/m3
		150 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
	TWA	566 mg/m3
		100 ppm
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	TWA	10 mg/m3

Biological limit values

UK. EH40 Biological Monitoring Guidance Values (BMGVs)

Components	Value	Determinant	Specimen	Sampling Time
alpha-Cedrene (CAS 469-61-4)	4 umol/mol	1-Hydroxypyrene	Creatinine in urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines

Austria MAK: Skin designation

Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Belgium OELs: Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.
Citral (CAS 5392-40-5) Can be absorbed through the skin.

Croatia ELVs: Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.
Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Estonia OELs: Skin designation

Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

EU. OELs from Annex III, Part A to Directive 2004/37/EC: Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.

Finland Exposure Limit Values: Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.
Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Germany DFG MAK (advisory): Skin designation

d-Limonene (CAS 5989-27-5) Can be absorbed through the skin.
Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Germany TRGS 900 Limit Values: Skin designation

d-Limonene (CAS 5989-27-5) Can be absorbed through the skin.

Iceland OELs: Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.
Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Ireland Exposure Limit Values: Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.

Italy OELs: Skin designation

Citral (CAS 5392-40-5) Danger of cutaneous absorption

Lithuania OELs: Skin designation

Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Netherlands OELs (binding): Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.
Ethanol (CAS 64-17-5) Can be absorbed through the skin.

Norway Exposure Limit Values: Skin designation

alpha-Pinene (CAS 80-56-8) Can be absorbed through the skin.
Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Portugal VLEs Norm on Occupatioinal Exposure: Skin designation

Citral (CAS 5392-40-5) Can be absorbed through the skin.

Romania OELs: Skin designation

Oils, turpentine (CAS 8006-64-2) Can be absorbed through the skin.

Slovakia OELs for Carcinogens and Mutagens: Skin designation

alpha-Cedrene (CAS 469-61-4) Can be absorbed through the skin.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

d-Limonene (CAS 5989-27-5)	Can be absorbed through the skin.

Spain OELs: Skin designation

Citral (CAS 5392-40-5)	Can be absorbed through the skin.
d-Limonene (CAS 5989-27-5)	Can be absorbed through the skin.

Sweden Threshold Limit Values: Skin designation

Oils, turpentine (CAS 8006-64-2)	Can be absorbed through the skin.

Switzerland SUVA Limit Values at the Workplace: Skin designation

alpha-Pinene (CAS 80-56-8)	Can be absorbed through the skin.
beta-Pinene (CAS 127-91-3)	Can be absorbed through the skin.
Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene- (CAS 79-92-5)	Can be absorbed through the skin.
Oils, turpentine (CAS 8006-64-2)	Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls
Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

General information
Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection
Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

- Hand protection
Wear appropriate chemical resistant gloves.

- Other
Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

Hygiene measures
When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

Environmental exposure controls
Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Form	Liquid.
Colour	Colourless.
Odour	Not available.
Melting point/freezing point	-114,1 °C (-173,38 °F) estimated
Boiling point or initial boiling point and boiling range	78,29 °C (172,92 °F) estimated
Flammability (solid, gas)	Not applicable.
Flash point	> 13 °C (> 55,4 °F)
Auto-ignition temperature	204 °C (399,2 °F) estimated
Decomposition temperature	Not available.
pH	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Vapour pressure	55,389467 hPa estimated

Vapour density	Not available.
Relative density	Not available.
Particle characteristics	Not available.

9.2. Other information

9.2.1. Information with regard to physical hazard classes	No relevant additional information available.

9.2.2. Other safety characteristics

Density	0,861 g/cm3 estimated
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Percent volatile	88,55 % estimated
Specific gravity	0,86085 estimated
VOC	85,38 % estimated

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms	Headache. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. May cause an allergic skin reaction. Dermatitis. Rash.

11.1. Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

IARC Monographs. Overall Evaluation of Carcinogenicity

Coumarin (CAS 91-64-5)	3 Not classifiable as to carcinogenicity to humans.
d-Limonene (CAS 5989-27-5)	3 Not classifiable as to carcinogenicity to humans.
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.

Aspiration hazard Due to partial or complete lack of data the classification is not possible.

Mixture versus substance information No information available.

11.2. Information on other hazards

Endocrine disrupting properties The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects. Based on available data, the classification criteria are not met for hazardous to the aquatic environment, acute hazard.

Components		Species	Test Results
alpha-Cedrene (CAS 469-61-4)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia pulex)	0,044, 48 hours
Benzene, 1-methyl-4-(1-methylethyl)- (CAS 99-87-6)			
Aquatic			
Acute			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	>= 36 - <= 64 mg/l, 96 hours
Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene- (CAS 79-92-5)			
Aquatic			
Acute			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	>= 1,6 - <= 2,2 mg/l, 96 hours
Coumarin (CAS 91-64-5)			
Aquatic			
Acute			
Fish	LC50	Guppy (Poecilia reticulata)	>= 32 - <= 100 mg/l, 96 hours
d-Limonene (CAS 5989-27-5)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia pulex)	69,6, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	>= 0,619 - <= 0,796 mg/l, 96 hours
Ethanol (CAS 64-17-5)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	>= 7,7 - <= 11,2 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	42, 4 days
Eucalyptol (CAS 470-82-6)			
Aquatic			
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	>= 95,4 - <= 109 mg/l, 96 hours
Geraniol (CAS 106-24-1)			
Aquatic			
Acute			
Fish	LC50	Brown trout (Salmo trutta)	>= 2,3 - <= 3 mg/l, 96 hours
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CAS 128-37-0)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia pulex)	1,44, 48 hours

12.2. Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

(±) trans—3,3-dimethyl-5-(2,2,3-trimethyl-cyclopent-3-en-1-yl)-pent -4-en-2-ol	4,989
1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	5,4
3-Octanol, 3,7-dimethyl-	3,3
Acetylcedrene	5,9
alpha-Pinene	4,83
Benzene, 1-methyl-4-(1-methylethyl)-	4,1
Benzoic acid, 2,4-dihydroxy-3,6-dimethyl-, methyl ester	2,6
beta-Caryophyllene	6,23
beta-Pinene	4,16
Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-	4,22
cis-4-(Isopropyl)cyclohexanemethanol	3,243
Citral	2,76
	3,45
Citronellal	3,53
	3,62
Citronellol	3,41
Coumarin	1,39
Cyclododecane, (ethoxymethoxy)-	5,4
d-Limonene	4,57
Ethanol	-0,31
Ethanone, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl)-	5,7
Eucalyptol	2,74
Galaxolide	5,3
Geraniol	3,56
Geranyl acetate	4,04
Hexyl Cinnamal	4,686
Hydroxycitronellal	1,68
Linalool	2,97
Linalyl acetate	3,9
	3,93
Methylenedioxyphenyl methylpropanal	2,4
Nerol	2,76
Neryl acetate	3,98
Oils, turpentine	4,16 - 4,83
Oxacycloheptadec-10-en-2-one	6,7
Oxacyclohexadec-12-en-2-one, (12E)-	5,45
Pentadecalactone	5,79
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	5,1
	5,2
trans-Rose Ketone-1	3,66

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

12.6. Endocrine disrupting properties The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

12.8. Additional information

Estonia Dangerous substances in soil Data

alpha-Cedrene (CAS 469-61-4)	PAH (Polycyclic aromatic hydrocarbons) (As the total sum of the substances) 20 mg/kg PAH (Polycyclic aromatic hydrocarbons) (As the total sum of the substances) 200 mg/kg PAH (Polycyclic aromatic hydrocarbons) (As the total sum of the substances) 5 mg/kg
Citronellal (CAS 106-23-0)	Chemical pesticides (As the total sum of the active substances) 0,5 mg/kg Chemical pesticides (As the total sum of the active substances) 20 mg/kg Chemical pesticides (As the total sum of the active substances) 5 mg/kg

Citronellol (CAS 106-22-9)	Chemical pesticides (As the total sum of the active substances) 0,5 mg/kg Chemical pesticides (As the total sum of the active substances) 20 mg/kg Chemical pesticides (As the total sum of the active substances) 5 mg/kg
Ethanol (CAS 64-17-5)	Chemical pesticides (As the total sum of the active substances) 0,5 mg/kg Chemical pesticides (As the total sum of the active substances) 20 mg/kg Chemical pesticides (As the total sum of the active substances) 5 mg/kg
Geraniol (CAS 106-24-1)	Chemical pesticides (As the total sum of the active substances) 0,5 mg/kg Chemical pesticides (As the total sum of the active substances) 20 mg/kg Chemical pesticides (As the total sum of the active substances) 5 mg/kg
Geranyl acetate (CAS 105-87-3)	Chemical pesticides (As the total sum of the active substances) 0,5 mg/kg Chemical pesticides (As the total sum of the active substances) 20 mg/kg Chemical pesticides (As the total sum of the active substances) 5 mg/kg

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN1170
14.2. UN proper shipping name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) (Ethanol)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Hazard No. (ADR)	33
Tunnel restriction code	D/E
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN1170
14.2. UN proper shipping name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) (Ethanol)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN1170
14.2. UN proper shipping name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) (Ethanol)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN1170
14.2. UN proper shipping name	Ethanol solution (Ethanol)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	No.
ERG Code	3L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

14.1. UN number	UN1170
14.2. UN proper shipping name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) (Ethanol)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

d-Limonene
alpha-Pinenes

14.7. Maritime transport in bulk according to IMO instruments Not established.

ADN; ADR; IATA; IMDG; RID

General information IMDG Regulated Marine Pollutant.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

(±) trans—3,3-dimethyl-5-(2,2,3-trimethyl-cyclopent-3-en-1-yl)-pent-4-en-2-ol (CAS 107898-54-4)
Ethanol (CAS 64-17-5)
Geraniol (CAS 106-24-1)
Linalool (CAS 78-70-6)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

alpha-Cedrene (CAS 469-61-4)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

(.+-.)-1-methyl-4-(1-methylvinyl)cyclohexene (CAS 7705-14-8)
(±) trans—3,3-dimethyl-5-(2,2,3-trimethyl-cyclopent-3-en-1-yl)-pent-4-en-2-ol (CAS 107898-54-4)
d-Limonene (CAS 5989-27-5)
Ethanol (CAS 64-17-5)
Galaxolide (CAS 1222-05-5)
Oils, turpentine (CAS 8006-64-2)

Other regulations	The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.
National regulations	Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.
15.2. Chemical safety assessment	No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MAC: Maximum Allowed Concentration.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TLV: Threshold Limit Value.
TWA: Time Weighted Average.
VLE: Exposure Limit Value.
VME: Exposure Average Value.
vPvB: Very persistent and very bioaccumulative.

References	Not available.
Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.
Full text of any H-statements not written out in full under Sections 2 to 15	H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H228 Flammable solid. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. 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. H412 Harmful to aquatic life with long lasting effects.
Revision information	Product and Company Identification: Product and Company Identification
Training information	Follow training instructions when handling this material.
Disclaimer	Home Fragrance Italia cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.