

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

8436581683943 - Natural Flavouring - Cascade - Type Hop Profile

Other means of identification:

Not applicable

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

Relevant uses (Professional user): Various

Relevant uses (Industrial user): Various

Exclusive Professional/Industrial use.

Uses advised against: Any use not specified in this section or in section 7.3

1.3 Details of the supplier of the safety data sheet:

Cali Terpenes S.L.
Travessera de les Corts, 48
08903 - Hospitalet de Llobregat - Barcelona - Spain
tel.: +34 686752682 -
info@caliterpenes.com www.caliterpenes.com

1.4 Emergency telephone number:

+34 686752682 (10:00 - 17:00)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

Regulation No 1272/2008 (CLP):

The classification of this product has been carried out in accordance with Regulation No 1272/2008 (CLP).

Aquatic Acute 1: Hazardous to the aquatic environment — acute hazard, category 1, H400
Aquatic Chronic 2: Hazardous to the aquatic environment — chronic hazard, category 2, H411
Asp. Tox. 1: Aspiration hazard, category 1, H304
Eye Irrit. 2: Eye irritation, category 2, H319
Flam. Liq. 3: Flammable liquids, category 3, H226
Skin Irrit. 2: Skin irritation, category 2, H315
Skin Sens. 1B: Skin sensitisation, category 1B, H317

2.2 Label elements:

Regulation No 1272/2008 (CLP):

Danger



Hazard statements:

H410 - Very toxic to aquatic life with long lasting effects.
H304 - May be fatal if swallowed and enters airways.
H319 - Causes serious eye irritation.
H226 - Flammable liquid and vapour.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/protective clothing/respiratory protection/eye protection/foot protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378: In case of fire: Use foam extinguisher (AB), Dry chemical powder extinguisher (ABC), Carbon dioxide extinguisher (BC) for extinction.
P403+P235: Store in a well-ventilated place. Keep cool.



P501: Dispose of contents/container in accordance with regulations on hazardous waste or packaging and packaging waste, respectively.

Supplemental information:
Contains Geranyl acetate, (+)-pin-2(3)-ene, Geraniol.

Substances contributing to the classification:
7-methyl-3-methyleneocta-1,6-diene; Linalool; d-limonene

2.3 Other hazards:

The product does not meet the PBT/vPvB criteria

The product does not meet the criteria for endocrine-disrupting properties.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

Not applicable

3.2 Mixtures:

Chemical description:

Mixture of substances

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name / classification		Concentration
CAS: 123-35-3 CE: 204-622-5 Index: Not applicable REACH: 01-2119514321-56-XXXX	**7-methyl-3-methyleneocta-1,6-diene(1)** Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315 - Danger Self-classified		80 - <100%
CAS: 105-87-3 CE: 203-341-5 Index: Not applicable REACH: Not applicable *	**Geranyl acetate(1)** Regulation 1272/2008 Aquatic Chronic 3: H412; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning Self-classified		<10%
CAS: 78-70-6 CE: 201-134-4 Index: 603-235-00-2 REACH: Not applicable *	**Linalool(1)** Regulation 1272/2008 Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Warning Self-classified		<10%
CAS: 5989-27-5 CE: 227-813-5 Index: 601-096-00-2 REACH: 01-2119529223-47-XXXX	**d-limonene(1)** Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 3: H412; Asp. Tox. 1: H304; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Danger ATP ATP17		<10%
CAS: 7785-70-8 CE: 232-087-8 Index: Not applicable REACH: 01-2119983230-42-XXXX	**(+)-pin-2(3)-ene(1)** Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Asp. Tox. 1: H304; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Danger Self-classified		<10%
CAS: 106-24-1 CE: 203-377-1 Index: 603-241-00-5 REACH: 01-2119552430-49-XXXX	**Geraniol(1)** Regulation 1272/2008 Eye Dam. 1: H318; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Danger Self-classified		<10%

**No registration number is available for this substance, as the substance or its use is exempt from registration; pursuant to Article 2, Article 15 of REACH Regulation (EC) No 1907/2006, the tonnage does not require registration.*

(1) Substance presenting a risk to health or the environment and meeting the criteria set out in Regulation (EU) No 2020/878

For more information on the hazards of the substances, see sections 11, 12 and 16.

Additional information:

Identification	M-factor
d-limonene CAS: 5989-27-5 CE: 227-813-5	Acute: 1
	Chronic: 1

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures:

Symptoms resulting from poisoning may appear after exposure, so in case of doubt, direct exposure to the chemical product or persistence of discomfort, seek medical attention, showing this SDS of the product.

By inhalation:

Remove the affected person from the exposure area, provide fresh air and keep at rest. In severe cases such as cardiorespiratory arrest, apply artificial respiration techniques if properly trained (cardiac massage, oxygen supply, etc.), requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and shoes, rinse the skin or shower the affected person if appropriate with plenty of cold water and neutral soap. In case of significant injury, seek medical attention. If the product has caused burns, do not remove clothing if it is stuck to the skin, as this could worsen the injury caused. If blisters form on the skin, these should never be burst, as this would increase the risk of infection.

By eye contact:

Rinse eyes with plenty of water at room temperature for at least 15 minutes. Prevent the affected person from rubbing or closing their eyes. If the affected person wears contact lenses, these must always be removed when they are not stuck to the eyes. In all cases, after rinsing, a doctor should be consulted as soon as possible with the SDS of the product.

By ingestion/aspiration:

Seek immediate medical assistance, showing this SDS of the product. Do not induce vomiting; if vomiting occurs, keep the head tilted forward to avoid aspiration. In case of loss of consciousness, do not administer anything orally until under medical supervision. Rinse the mouth and throat with water, as there is a possibility they may have been affected during ingestion. Keep the affected person at rest.

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

Acute and delayed effects are as indicated in sections 2 and 11.

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

Not applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media:

Foam extinguisher (AB), Dry chemical powder extinguisher (ABC), Carbon dioxide extinguisher (BC)

Unsuitable extinguishing media:

Water jet

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition, reaction by-products are generated which can be highly toxic and, consequently, can pose a high risk to health.

5.3 Advice for firefighters:

Depending on the magnitude of the fire, it may be necessary to use complete protective clothing and self-contained breathing apparatus. Have a minimum of emergency installations or response equipment available (fire blankets, portable first-aid kit, etc.) in accordance with R.D. 486/1997 and subsequent amendments.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on action in the event of accidents and other emergencies. Eliminate any source of ignition. In case of fire, cool storage containers and tanks exposed to the risk of ignition, explosion or BLEVE as a result of elevated temperatures. Avoid spillage of products used in firefighting into the aquatic environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Isolate leaks whenever doing so poses no additional risk to the people performing this function. Evacuate the area and keep unprotected persons away. Given the potential contact with the spilled product, the use of personal protective equipment is mandatory (see section 8). Give priority to preventing the formation of flammable vapour-air mixtures, either through ventilation or the use of an inerting agent. Eliminate any source of ignition. Eliminate electrostatic charges by bonding all conductive surfaces on which static electricity could form, and earthing the whole assembly.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:



Avoid at all costs any type of spillage into the aquatic environment. Adequately contain the absorbed/collected product in hermetically sealable containers. Notify the competent authority in the event of exposure to the general public or the environment.

6.3 Methods and material for containment and cleaning up:

Recommended:

Prevent entry into drains, sewers or watercourses. Absorb the spill using inert sand or absorbent and transfer it to a safe place. Do not absorb with sawdust or other combustible absorbents. Collect the product in suitable containers and manage it in accordance with current legislation.

Spills in water or sea:

Small spills:

Contain the spill with barriers or similar equipment. Use suitable absorbents for collection and treat the residue in accordance with legislation.

Large spills:

If possible, contain the spill in open waters using barriers or similar equipment. If this is not possible, try to control its extent and collect the product with suitable mechanical means. Always consult experts before using dispersants and ensure the necessary authorisations are available if they are to be used. Treat the residue in accordance with legislation.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions

Comply with current occupational risk prevention legislation. Keep containers hermetically closed. Control spills and waste, disposing of them using safe methods (section 6). Avoid free spillage from the container. Maintain order and cleanliness where hazardous products are handled.

B.- Technical recommendations for the prevention of fires and explosions

Decant in well-ventilated areas, preferably with local extraction. Fully control ignition sources (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid hazardous atmospheres inside containers, applying inerting systems where possible. Decant at slow speeds to avoid the generation of electrostatic charges. Given the possibility of electrostatic charge build-up: ensure a perfect equipotential connection, always use earthing points, and avoid acrylic clothing, preferably using cotton clothing and conductive footwear. Comply with the essential safety requirements for equipment and systems defined in R.D. 400/1996 (ATEX 100) and with the minimum provisions for the protection of the health and safety of workers under the criteria of R.D. 681/2003 (ATEX 137). See section 10 regarding conditions and materials to avoid.

C.- Technical recommendations to prevent ergonomic and toxicological risks

For exposure control, see section 8. Do not eat, drink or smoke in work areas; wash hands after each use, and remove contaminated clothing and protective equipment before entering areas used for eating.

D.- Technical recommendations to prevent environmental risks

Due to the hazard this product poses to the environment, it is recommended to handle it within an area equipped with containment barriers in case of spillage, as well as to have absorbent material available nearby.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

ITC (R.D. 656/2017): MIE-APQ-1

Classification: B2

B.- General storage conditions

Avoid heat sources, radiation, static electricity and contact with foodstuffs. For additional information, see section 10.5

7.3 Specific end use(s):

Except for the indications already specified, no special recommendations are required regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limit values must be monitored in the workplace environment:

National Institute of Safety and Health at Work (INSST) 2025:

Identification	Limit type	Value
d-limonene CAS: 5989-27-5 CE: 227-813-5	OEL-TWA	30 ppm / 168 mg/m³
d-limonene CAS: 5989-27-5 CE: 227-813-5	OEL-STEL	-



DNEL (Workers):

		Short-term exposure		Long-term exposure	
Identification		**Systemic**	**Local**	**Systemic**	**Local**
Geranyl acetate CAS: 105-87-3 CE: 203-341-5	Oral	Not applicable	Not applicable	Not applicable	Not applicable
	Dermal	Not applicable	Not applicable	35.5 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	62.59 mg/m³	Not applicable
Linalool CAS: 78-70-6 CE: 201-134-4	Oral	Not applicable	Not applicable	Not applicable	Not applicable
	Dermal	Not applicable	Not applicable	3.5 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	24.58 mg/m³	Not applicable
(+)-pin-2(3)-ene CAS: 7785-70-8 CE: 232-087-8	Oral	Not applicable	Not applicable	Not applicable	Not applicable
	Dermal	Not applicable	Not applicable	0.132 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	0.933 mg/m³	Not applicable
d-limonene CAS: 5989-27-5 CE: 227-813-5	Oral	Not applicable	Not applicable	Not applicable	Not applicable
	Dermal	Not applicable	Not applicable	9.5 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	66.7 mg/m³	Not applicable
Geraniol CAS: 106-24-1 CE: 203-377-1	Oral	Not applicable	Not applicable	Not applicable	Not applicable
	Dermal	Not applicable	Not applicable	12.5 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	161.6 mg/m³	Not applicable

DNEL (General population):

		Short-term exposure		Long-term exposure	
Identification		**Systemic**	**Local**	**Systemic**	**Local**
Geranyl acetate CAS: 105-87-3 CE: 203-341-5	Oral	Not applicable	Not applicable	8.9 mg/kg	Not applicable
	Dermal	Not applicable	Not applicable	17.75 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	15.4 mg/m³	Not applicable
Linalool CAS: 78-70-6 CE: 201-134-4	Oral	Not applicable	Not applicable	2.49 mg/kg	Not applicable
	Dermal	Not applicable	Not applicable	1.25 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	4.33 mg/m³	Not applicable
(+)-pin-2(3)-ene CAS: 7785-70-8 CE: 232-087-8	Oral	Not applicable	Not applicable	0.134 mg/kg	Not applicable
	Dermal	Not applicable	Not applicable	0.134 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	0.467 mg/m³	Not applicable
d-limonene CAS: 5989-27-5 CE: 227-813-5	Oral	Not applicable	Not applicable	4.8 mg/kg	Not applicable
	Dermal	Not applicable	Not applicable	4.8 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	16.6 mg/m³	Not applicable
Geraniol CAS: 106-24-1 CE: 203-377-1	Oral	Not applicable	Not applicable	13.75 mg/kg	Not applicable
	Dermal	Not applicable	Not applicable	7.5 mg/kg	Not applicable
	Inhalation	Not applicable	Not applicable	47.8 mg/m³	Not applicable

PNEC:

Identification				
Geranyl acetate CAS: 105-87-3 CE: 203-341-5	STP	8 mg/L	Freshwater	0.00372 mg/L
	Soil	0.086 mg/kg	Saltwater	0.000372 mg/L
	Intermittent	0.0372 mg/L	Sediment (freshwater)	0.442 mg/kg
	Oral	Not applicable	Sediment (saltwater)	0.044 mg/kg
Linalool CAS: 78-70-6 CE: 201-134-4	STP	10 mg/L	Freshwater	0.2 mg/L
	Soil	0.327 mg/kg	Saltwater	0.02 mg/L
	Intermittent	2 mg/L	Sediment (freshwater)	2.22 mg/kg



Identification				
	Oral	0.0078 g/kg	Sediment (saltwater)	0.222 mg/kg
(+)-pin-2(3)-ene CAS: 7785-70-8 CE: 232-087-8	STP	0.262 mg/L	Freshwater	0 mg/L
	Soil	0.003 mg/kg	Saltwater	0 mg/L
	Intermittent	0.003 mg/kg	Sediment (freshwater)	0.03 mg/kg
	Oral	Not applicable	Sediment (saltwater)	0.003 mg/kg
d-limonene CAS: 5989-27-5 CE: 227-813-5	STP	1.8 mg/L	Freshwater	0.014 mg/L
	Soil	0.763 mg/kg	Saltwater	0.0014 mg/L
	Intermittent	Not applicable	Sediment (freshwater)	3.85 mg/kg
	Oral	0.133 g/kg	Sediment (saltwater)	0.385 mg/kg
Geraniol CAS: 106-24-1 CE: 203-377-1	STP	0.7 mg/L	Freshwater	0.011 mg/L
	Soil	0.017 mg/kg	Saltwater	0.001 mg/L
	Intermittent	0.108 mg/kg	Sediment (freshwater)	0.115 mg/kg
	Oral	Not applicable	Sediment (saltwater)	0.011 mg/kg

8.2 Exposure controls:

A.- Individual protection measures, such as personal protective equipment

As a preventive measure, the use of personal protective equipment is recommended, with the corresponding CE marking in accordance with Regulation (EU) 2016/425 and subsequent amendments. For more information on personal protective equipment (storage, use, cleaning, maintenance, protection class,...) consult the information leaflet provided by the PPE manufacturer. The indications in this point refer to the pure product. The protection measures for the diluted product may vary depending on its degree of dilution, method of application, etc. To determine the requirement to install emergency showers and/or eyewash stations in warehouses, the regulations applicable to the storage of chemical products in each case shall be taken into account. For more information see sections 7.1 and 7.2.

All the information included here is a recommendation, and its implementation by occupational risk prevention services is necessary, since the additional preventive measures the company may have in place, or whether they have been included in the relevant risk assessment, are unknown.

B.- Respiratory protection.

Pictogram	PPE	Marking	CEN Standards	Remarks
	Self-filtering mask for gases and vapours (Filter type: A)	CE CAT III	EN 405:2002+A1:2010	Replace when odour or taste of the contaminant is detected inside the mask or facial adapter. When the contaminant does not have good warning properties, the use of self-contained breathing apparatus is recommended.

C.- Specific hand protection.

Pictogram	PPE	Marking	CEN Standards	Remarks
	Chemical protection gloves (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.4 mm)	CE CAT III	EN ISO 21420:2020	Replace the gloves at any sign of deterioration.

Given that the product is a mixture of different materials, the resistance of the glove material cannot be calculated in advance with total reliability, and therefore must be checked before use.

D.- Eye and face protection

Pictogram	PPE	Marking	CEN Standards	Remarks
	Panoramic goggles against splashes and/or projections	CE CAT II	EN 166:2002 EN ISO 4007:2018	Clean daily and disinfect periodically in accordance with the manufacturer's instructions. Their use is recommended in case of risk of splashes.

E.- Body protection

Pictogram	PPE	Marking	CEN Standards	Remarks
	Antistatic and flame-retardant protective garment	CE CAT III	EN 1149-1:2007 EN 1149-2:1998 EN 1149-3:2004 UNE-EN ISO 18526-1 to 4:2020 EN ISO 14116:2015 EN 1149-5:2018	Limited protection against flame.



Pictogram	PPE	Marking	CEN Standards	Remarks
	Safety footwear with antistatic properties and heat resistance	CE CAT III	EN ISO 13287:2020 EN ISO 20345:2022	Replace the boots at any sign of deterioration.

F.- Additional emergency measures

It is recommended to implement additional emergency equipment in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the need for such equipment.

	Emergency measure	Standards		Emergency measure	Standards
	**Emergency shower**	ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011		**Eyewash station**	DIN 12899, ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

In accordance with Community environmental protection legislation, it is recommended to avoid spillage of both the product and its container into the environment. For additional information, see section 7.1.D

Volatile organic compounds:

In accordance with R.D. 117/2003 and subsequent amendments (Directive 2010/75/EU), this product has the following characteristics:

VOC (Supply): 97.81 % by weight

VOC concentration at 20°C: 785.43 kg/m³ (785.43 g/L)

Average carbon number: 10

Average molecular weight: 136.43 g/mol

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

To complete the information, see the product's technical data sheet/specification sheet.

Physical appearance:

Physical state at 20°C:	Liquid
Appearance:	Not applicable *
Colour:	Not applicable *
Odour:	Not applicable *
Odour threshold:	Not applicable *

Volatility:

Boiling point at atmospheric pressure:	167 °C
Vapour pressure at 20°C:	175 Pa
Vapour pressure at 50°C:	1176.05 Pa (1.18 kPa)
Evaporation rate at 20°C:	Not applicable *

Product characterisation:

Density at 20°C:	803 kg/m³
Relative density at 20°C:	0.803
Dynamic viscosity at 20°C:	1.07 mPa·s
Kinematic viscosity at 20°C:	1.34 mm²/s
Kinematic viscosity at 40°C:	<=20.5 mm²/s
Concentration:	Not applicable *
pH:	Not applicable *
Vapour density at 20°C:	Not applicable *
n-octanol/water partition coefficient at 20°C:	Not applicable *
Water solubility at 20°C:	Not applicable *
Solubility property:	Not applicable *
Decomposition temperature:	Not applicable *
Melting point/freezing point:	Not applicable *

Flammability:



Flash point:	52 °C
Flammability (solid, gas):	Not applicable *
Auto-ignition temperature:	235 °C
Lower flammability limit:	Not applicable *
Upper flammability limit:	Not applicable *

Particle characteristics:

Mean equivalent diameter:	Not applicable *

9.2 Other data:

Information relating to physical hazard classes:

Explosive properties:	Not applicable *
Oxidising properties:	Not applicable *
Corrosive to metals:	Not applicable *
Heat of combustion:	Not applicable *
Aerosols - total percentage (by mass) of flammable components:	Not applicable *

Other safety characteristics:

Surface tension at 20°C:	Not applicable *
Refractive index:	Not applicable *

**Not applicable due to the nature of the product, not providing information characteristic of its hazard.*

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected if the technical storage instructions for chemical products are followed. See section 7 of the SDS for further information.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the indicated conditions, no hazardous reactions likely to produce excessive pressure or temperatures are expected.

10.4 Conditions to avoid:

Applicable to handling and storage at room temperature:

Shock and friction	Contact with air	Heating	Sunlight	Humidity
Not applicable	Not applicable	Risk of ignition	Avoid direct exposure	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct exposure	Not applicable	Avoid strong alkalis or bases

10.6 Hazardous decomposition products:

See points 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances may be released as a consequence: carbon dioxide (CO_2), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

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

No experimental data is available on the product itself regarding toxicological properties.

Hazardous effects on health:

In case of repeated, prolonged exposure or exposure at concentrations above those established by occupational exposure limits, adverse effects on health may occur depending on the route of exposure:

A- Ingestion (acute effect):

- Acute toxicity: Based on the available data, the classification criteria are not met, with no substances classified as hazardous by ingestion. See section 3 for further information.
- Corrosivity/Irritability: Ingestion of a considerable dose may cause throat irritation, abdominal pain, nausea and vomiting.



B- Inhalation (acute effect):

- Acute toxicity: Based on the available data, the classification criteria are not met, with no substances classified as hazardous by inhalation. See section 3 for further information.
- Corrosivity/Irritability: Based on the available data, the classification criteria are not met, with no substances classified as hazardous for this effect. See section 3 for further information.

C- Skin and eye contact (acute effect):

- Skin contact: Causes skin inflammation.
- Eye contact: Causes eye lesions following contact.

D- CMR effects (carcinogenicity, mutagenicity and reproductive toxicity):

- Carcinogenicity: Based on the available data, the classification criteria are not met, with no substances classified as hazardous for the effects described. See section 3 for further information.
  IARC: d-limonene (3); 7-methyl-3-methyleneocta-1,6-diene (2B)
- Mutagenicity: Based on the available data, the classification criteria are not met, with no substances classified as hazardous for this effect. See section 3 for further information.
- Reproductive toxicity: Based on the available data, the classification criteria are not met, with no substances classified as hazardous for this effect. See section 3 for further information.

E- Sensitising effects:

- Respiratory: Based on the available data, the classification criteria are not met, with no substances classified as hazardous with sensitising effects above the limits set out in point 3.2 of Regulation (EC) 2020/878. See sections 2, 3 and 15 for further information.
- Skin: Prolonged skin contact may result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Based on the available data, the classification criteria are not met, with no substances classified as hazardous for this effect. See section 3 for further information.

G- Specific target organ toxicity (STOT) - repeated exposure:

- Specific target organ toxicity (STOT) - repeated exposure: Based on the available data, the classification criteria are not met, with no substances classified as hazardous for this effect. See section 3 for further information.
- Skin: Based on the available data, the classification criteria are not met, with no substances classified as hazardous for this effect. See section 3 for further information.

H- Aspiration hazard:

May be fatal if swallowed and enters the airways.

Additional information:

Not applicable

Substance-specific toxicological information:

Identification	Acute toxicity	Gender
d-limonene CAS: 5989-27-5 CE: 227-813-5	Oral LD50 4400 mg/kg	Rat
	Dermal LD50 >5000 mg/kg	Rabbit
	Inhalation LC50 vapours -	
Linalool CAS: 78-70-6 CE: 201-134-4	Oral LD50 3000 mg/kg	Rat
	Dermal LD50 5610 mg/kg	Rabbit
	Inhalation LC50 vapours -	
(+)-pin-2(3)-ene CAS: 7785-70-8 CE: 232-087-8	Oral LD50 3700 mg/kg	Rat
	Dermal LD50 -	
	Inhalation LC50 vapours -	
Geraniol CAS: 106-24-1 CE: 203-377-1	Oral LD50 4200 mg/kg	Rat
	Dermal LD50 5100 mg/kg	Rabbit
	Inhalation LC50 vapours -	

11.2 Information on other hazards:

Endocrine-disrupting properties

The product does not meet the criteria for endocrine-disrupting properties.

Other data

Not applicable



SECTION 12: ECOLOGICAL INFORMATION

No experimental data is available on the mixture itself regarding ecotoxicological properties.

Very toxic to aquatic life.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration	Species	Gender
7-methyl-3-methyleneocta-1,6-diene CAS: 123-35-3 CE: 204-622-5	LC50 >0.1 - 1 mg/L (96 h)		Fish
	EC50 >0.1 - 1 mg/L (48 h)		Crustacean
	EC50 >0.1 - 1 mg/L (72 h)		Algae
Geranyl acetate CAS: 105-87-3 CE: 203-341-5	LC50 >10 - 100 mg/L (96 h)		Fish
	EC50 >10 - 100 mg/L (48 h)		Crustacean
	EC50 >10 - 100 mg/L (72 h)		Algae
d-limonene CAS: 5989-27-5 CE: 227-813-5	LC50 0.702 mg/L (96 h)	Pimephales promelas	Fish
	EC50 0.577 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Not applicable		
(+)-pin-2(3)-ene CAS: 7785-70-8 CE: 232-087-8	LC50 0.28 mg/L (96 h)	Pimephales promelas	Fish
	EC50 1.4 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Not applicable		

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability	Biodegradability
7-methyl-3-methyleneocta-1,6-diene CAS: 123-35-3 CE: 204-622-5	BOD5 Not applicable	Concentration 100 mg/L
	COD Not applicable	Period 14 days
	BOD5/COD Not applicable	% Biodegraded 86%
Linalool CAS: 78-70-6 CE: 201-134-4	BOD5 Not applicable	Concentration 100 mg/L
	COD Not applicable	Period 28 days
	BOD5/COD Not applicable	% Biodegraded 90%
d-limonene CAS: 5989-27-5 CE: 227-813-5	BOD5 Not applicable	Concentration 10 mg/L
	COD Not applicable	Period 28 days
	BOD5/COD Not applicable	% Biodegraded 71.4%
Geraniol CAS: 106-24-1 CE: 203-377-1	BOD5 Not applicable	Concentration 100 mg/L
	COD Not applicable	Period 21 days
	BOD5/COD Not applicable	% Biodegraded 70%

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulative potential
7-methyl-3-methyleneocta-1,6-diene CAS: 123-35-3 CE: 204-622-5	BCF 324
	Log POW 5.29
	Potential High
Linalool CAS: 78-70-6 CE: 201-134-4	BCF -
	Log POW 2.97



Identification	Bioaccumulative potential
	Potential -
d-limonene CAS: 5989-27-5 CE: 227-813-5	BCF -
	Log POW 4.83
	Potential -
(+)-pin-2(3)-ene CAS: 7785-70-8 CE: 232-087-8	BCF 1250
	Log POW 4.4
	Potential Very High
Geraniol CAS: 106-24-1 CE: 203-377-1	BCF 110
	Log POW 3.56
	Potential High

12.4 Mobility in soil:

Identification	Absorption/Desorption	Volatility
7-methyl-3-methyleneocta-1,6-diene CAS: 123-35-3 CE: 204-622-5	Koc 1300	Henry 6515.2 Pa·m³/mol
	Conclusion Low	Dry soil Not applicable
	Surface tension Not applicable	Wet soil Yes
d-limonene CAS: 5989-27-5 CE: 227-813-5	Koc 6324	Henry 2533.13 Pa·m³/mol
	Conclusion Immobile	Dry soil Not applicable
	Surface tension 2.675E-2 N/m (25°C)	Wet soil Yes
(+)-pin-2(3)-ene CAS: 7785-70-8 CE: 232-087-8	Koc 7400	Henry Not applicable
	Conclusion Immobile	Dry soil Not applicable
	Surface tension Not applicable	Wet soil Not applicable

12.5 Results of PBT and vPvB assessment:

The product does not meet the PBT/vPvB criteria

12.6 Endocrine-disrupting properties:

The product does not meet the criteria for endocrine-disrupting properties.

12.7 Other adverse effects:

None described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Type of waste (Regulation (EU) No 1357/2014)
	It is not possible to assign a specific code, as it depends on the use for which the user intends it	Hazardous

Type of waste (Regulation (EU) No 1357/2014):

HP14 Ecotoxic, HP5 Specific target organ toxicity (STOT)/Aspiration toxicity, HP3 Flammable, HP4 Irritant — skin irritation and eye damage

Waste management (disposal and recovery):

Consult the authorised waste manager regarding the recovery and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC, Law 7/2022). In accordance with code 15 01 (2014/955/EU), if the packaging has been in direct contact with the product it shall be managed in the same way as the product itself; otherwise it shall be managed as non-hazardous waste. Disposal into watercourses is discouraged. See section 6.2.

Legislative provisions relating to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), the Community or national provisions relating to waste management are set out.

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014.

National legislation: Law 7/2022, of 8 April, on waste and contaminated soil for a circular economy.



SECTION 14: TRANSPORT INFORMATION

Overland transport of dangerous goods:

In application of ADR 2025 and RID 2025:





14.1 UN number or ID number:	UN2319
14.2 UN proper shipping name:	TERPENE HYDROCARBONS, N.O.S. (7-methyl-3-methyleneocta-1,6-diene)
14.3 Transport hazard class(es):	3 Labels: 3
14.4 Packing group:	III
14.5 Environmental hazards:	Yes
14.6 Special precautions for user:	Special provisions: Not applicable Tunnel restriction code: D/E Physico-chemical properties: See section 9 Limited quantities: 5 L
14.7 Maritime transport in bulk according to IMO instruments:	Not applicable

Maritime transport of dangerous goods:

In application of IMDG 41-22:





14.1 UN number or ID number:	UN2319
14.2 UN proper shipping name:	TERPENE HYDROCARBONS, N.O.S. (7-methyl-3-methyleneocta-1,6-diene)
14.3 Transport hazard class(es):	3 Labels: 3
14.4 Packing group:	III
14.5 Marine pollutant:	Yes
14.6 Special precautions for user:	Special provisions: Not applicable EmS codes: F-E, S-D Physico-chemical properties: See section 9 Limited quantities: 5 L Segregation group: Not applicable
14.7 Maritime transport in bulk according to IMO instruments:	Not applicable

Air transport of dangerous goods:

In application of IATA/ICAO 2025:





14.1 UN number or ID number:	UN2319
14.2 UN proper shipping name:	TERPENE HYDROCARBONS, N.O.S. (7-methyl-3-methyleneocta-1,6-diene)
14.3 Transport hazard class(es):	3 Labels: 3
14.4 Packing group:	III
14.5 Environmental hazards:	Yes
14.6 Special precautions for user:	Physico-chemical properties: See section 9
14.7 Maritime transport in bulk according to IMO instruments:	Not applicable

SECTION 15: REGULATORY INFORMATION

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

- Regulation (EU) 2024/590, on substances that deplete the ozone layer: Not applicable
- Regulation (EU) 2019/1021 on persistent organic pollutants: Not applicable
- REGULATION (EU) No 649/2012, concerning the export and import of hazardous chemicals: Not applicable
- Active substances included under Article 95 of Regulation (EU) No 528/2012: Geraniol (106-24-1) - PT: (18,19)
- Substances subject to authorisation under Regulation (EC) 1907/2006 (REACH): Not applicable
- Substances included in Annex XIV of REACH (authorisation list) and expiry date: Not applicable

Seveso III:

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c	FLAMMABLE LIQUIDS	5000	50000
E1	HAZARDS TO THE AQUATIC ENVIRONMENT	100	200



Restrictions on the marketing and use of certain hazardous substances and mixtures (Annex XVII of the REACH Regulation, etc.):

Product classified as hazardous due to flammability. It must not be used in aerosol generators intended for sale to the general public for recreational and decorative purposes.

— decorative metallic glitter,
— decorative artificial snow and frost,
— indecent cushions (whoopee cushions),
— gelatinous streamers,
— party poppers (confetti cannons),
— imitation excrement,
— party horns,
— artificial cobwebs,
— stink bombs.

Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure, prior to marketing, that the packaging of the aerosol generators mentioned above bears the following marking visibly, legibly and indelibly:

«Reserved for professional users only».

They shall not be used:

—decorative articles intended to produce luminous or colour effects by means of different phases, for example, in ambient lamps and ashtrays,
—articles of amusement and merriment,
—games for one or more participants or any article to be used as such, even with a decorative character.

Specific provisions on the protection of persons or the environment:

It is recommended that the information gathered in this safety data sheet be used as input data in a local risk assessment, in order to establish the necessary measures for the prevention of risks in the handling, use, storage and disposal of this product.

Other legislation:

Regulation (EC) No 1272/2008 of the European Parliament and of the Council, of 16 December 2008, on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, and all its subsequent amendments.

15.2 Chemical safety assessment:

The supplier has not carried out a chemical safety assessment.

SECTION 16: OTHER INFORMATION

Applicable legislation to the safety data sheet:

This safety data sheet has been developed in accordance with ANNEX II-Guide for the preparation of Safety Data Sheets of Regulation (EC) No 1907/2006 (REGULATION (EU) 2020/878 OF THE COMMISSION)

Changes with respect to the previous safety data sheet that affect risk management measures:

Not applicable

Full text of the legislative phrases considered in section 2:

H400: Very toxic to aquatic life.
H317: May cause an allergic skin reaction.
H411: Toxic to aquatic life with long lasting effects.
H315: Causes skin irritation.
H304: May be fatal if swallowed and enters airways.
H226: Flammable liquid and vapour.
H319: Causes serious eye irritation.

Full text of the legislative phrases considered in section 3:

The phrases indicated do not refer to the product itself; they are for information purposes only and refer to the individual components listed in section 3

Regulation No 1272/2008 (CLP):

Aquatic Acute 1: H400 - Very toxic to aquatic life.
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Eye Dam. 1: H318 - Causes serious eye damage.
Eye Irrit. 2: H319 - Causes serious eye irritation.
Flam. Liq. 3: H226 - Flammable liquid and vapour.



Skin Irrit. 2: H315 - Causes skin irritation.
Skin Sens. 1: H317 - May cause an allergic skin reaction.
Skin Sens. 1B: H317 - May cause an allergic skin reaction.

Classification procedure:

Aquatic Acute 1: Calculation method
Skin Sens. 1B: Calculation method
Aquatic Chronic 2: Calculation method
Skin Irrit. 2: Calculation method
Asp. Tox. 1: Calculation method
Flam. Liq. 3: Calculation method (2.6.4.3.)
Eye Irrit. 2: Calculation method

Training advice:

Minimum training in occupational risk prevention is recommended for personnel who will handle this product, in order to facilitate the understanding and interpretation of this safety data sheet, as well as the product labelling.

Main bibliographic sources:

http://echa.europa.eu

http://eur-lex.europa.eu

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Dangerous Goods Code
IATA: International Air Transport Association
OACI: International Civil Aviation Organization
COD: Chemical Oxygen Demand
BOD5: Biochemical Oxygen Demand over 5 days
BCF: Bioconcentration Factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
EC50: Effective Concentration 50
Log POW: Octanol-Water Partition Coefficient Logarithm
Koc: Organic Carbon Partition Coefficient
SDS: Safety Data Sheet
UFI: Unique Formula Identifier
IARC: International Agency for Research on Cancer

The information contained in this Safety Data Sheet is based on sources, technical knowledge and legislation in force at European and national level, and its accuracy cannot be guaranteed. This information cannot be considered a guarantee of the product's properties; it is simply a description with regard to safety requirements. The working conditions of the users of this product are outside our knowledge and control, it being always the ultimate responsibility of the user to take the necessary measures to comply with the legislative requirements regarding the handling, storage, use and disposal of chemical products. The information in this safety data sheet refers only to this product, which must not be used for purposes other than those specified.