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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1. Identification of the substance/mixture

Trade name: Substance name: CAS Number: **CF Number:**

CITRONELLA OIL, CHINA CITRONELLA OIL 91771-61-8, 294-954-7

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

Raw material for the manufacture of fragrances and/or flavourings.

1.3. Details of the supplier of the safety data sheet

Company:	Ernesto Ventós SA	
Address:	Carretera Real, 120 B	
	08960 Sant Just Desvern – Barcelona – SPAIN	
Telephone:	(00 34) 934 706 210	
Fax:	(00 34) 934 733 010	
E-mail:	info@ventos.com	

1.4. Emergency telephone number

NCEC (+44) 1865 407333 (24h) NCEC (+34) 91 114 2520 (24h) (ES) NCEC (+1) 202 464 2554 (24h) (USA, Canada)

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Flammable Liquids - Category 4 - H227 Acute Toxicity - Category 4 (oral) - H302 Skin Irritant - Category 2 - H315 Serious eye damage - Category 1 - H318 Skin sensitizer - Category 1 - H317 Aspiration hazard - Category 1 - H304 Hazardous to the aquatic environment, short-term (acute) - Category 2 - H401 Hazardous to the aquatic environment, long-term (chronic) - Category 2 - H411

2.2. Label Elements



Signal Word: Danger

Hazard statements:

- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310+P330+P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.

P302+P352+P333+P313 – IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.



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2.3. Other hazards

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Chemical name: CAS number: EC number: CITRONELLA OIL 91771-61-8, 294-954-7

Hazardous constituents:

Chemical Name	% (w/w)	CAS No. EC No.	Classification according to GHS	
CITRONELLAL	≥25; <50	106-23-0 203-376-6	Flammable Liquids - Category 4 - H227 Acute Toxicity - Category 5 (oral) - H303 Acute Toxicity - Category 5 (dermal) - H313 Skin Irritant - Category 2 - H315 Eye Irritant - Category 2A - H319 Skin sensitizer - Category 1B - H317 Hazardous to the aquatic environment, short-term (acute) - Category 2 - H401	
GERANIOL	≥10; <25	106-24-1 203-377-1	Acute Toxicity - Category 5 (oral) - H303 Skin Irritant - Category 2 - H315 Serious eye damage - Category 1 - H318 Skin sensitizer - Category 1 - H317 Hazardous to the aquatic environment, short-term (acute) - Category 3 - H402	
CITRONELLOL	≥10; <25	106-22-9 203-375-0	Acute Toxicity - Category 5 (oral) - H303 Acute Toxicity - Category 5 (dermal) - H313 Skin Irritant - Category 2 - H315 Eye Irritant - Category 2A - H319 Skin sensitizer - Category 1B - H317 Hazardous to the aquatic environment, short-term (acute) - Category 2 - H401	
GERANYL ACETATE	≥1; <10	105-87-3 203-341-5	Skin Irritant - Category 2 - H315 Skin sensitizer - Category 1B - H317 Hazardous to the aquatic environment, short-term (acute) - Category 2 - H401 Hazardous to the aquatic environment, long-term (chronic) - Category 3 - H412	
LIMONENE	≥1; <10	138-86-3 205-341-0	Flammable Liquids - Category 3 - H226 Skin Irritant - Category 2 - H315 Skin sensitizer - Category 1B - H317 Aspiration hazard - Category 1 - H304 Hazardous to the aquatic environment, short-term (acute) - Category 1 - H400 Hazardous to the aquatic environment, long-term (chronic) - Category 3 - H412	
CITRONELLYL ACETATE	≥1;<10	150-84-5 205-775-0	Skin Irritant - Category 2 - H315 Hazardous to the aquatic environment, short-term (acute) - Category 2 - H401 Hazardous to the aquatic environment, long-term (chronic) - Category 2 - H411	
ISOPULEGOL	≥1; <10	89-79-2 201-940-6	Flammable Liquids - Category 4 - H227 Acute Toxicity - Category 4 (oral) - H302 Skin Irritant - Category 2 - H315 Eye Irritant - Category 2A - H319 Hazardous to the aquatic environment, short-term (acute) - Category 3 - H402	
EUGENOL	≥1; <10	97-53-0 202-589-1	Acute Toxicity - Category 5 (oral) - H303 Skin Irritant - Category 3 - H316 Eye Irritant - Category 2A - H319 Skin sensitizer - Category 1B - H317 Hazardous to the aquatic environment, short-term (acute) - Category 2 - H401	
LINALOOL	≥0.1; <1	78-70-6 201-134-4	Flammable Liquids - Category 4 - H227 Acute Toxicity - Category 5 (oral) - H303 Skin Irritant - Category 2 - H315 Eye Irritant - Category 2A - H319 Skin sensitizer - Category 1B - H317 Hazardous to the aquatic environment, short-term (acute) - Category 3 - H402	
CITRAL	≥0.1; <1	5392-40-5 226-394-6	Skin Irritant - Category 2 - H315 Eye Irritant - Category 2A - H319 Skin sensitizer - Category 1 - H317 Hazardous to the aquatic environment, short-term (acute) - Category 2 - H401	

See the full text of the hazard statements in section 16.

3.2. Mixtures

Not applicable.



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4. FIRST-AID MEASURES

4.1. Description of necessary first aid measures

Ingestion:	Rinse mouth with water. Obtain medical advice. Keep at rest. Do not induce vomiting.
Eye contact:	In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes and seek medical advice.
Inhalation:	Remove person to fresh air and keep at rest. Seek immediate medical advice.
Skin contact:	Take off immediately all contaminated clothing. Thoroughly wash affected skin with soap and water. Seek medical attention if symptoms persist.

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

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

No information available.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Water spray, carbon dioxide, dry chemical powder or appropriate foam. For safety reasons do not use full water jet.

5.2. Special hazards arising from the substance or mixture

Known or Anticipated Hazardous Products of Combustion: Emits toxic fumes under fire conditions.

5.3. Advice for firefighters

High temperatures can lead to high pressures inside closed containers. Avoid inhalation of vapors that are created. Use appropriate respiratory protection. Do not allow spillage of fire to be poured into drains or watercourses. Wear self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate surronding areas. Ensure adequate ventilation. Keep unnecessary and unprotected personnel from entering. Do not breathe vapor/spray. Avoid contact with skin and eyes. Information regarding personal protective measures: see section 8.

6.2. Environmental precautions

To avoid possible contamination of the environment, do not discharge into any drains, surface waters or groundwaters.

6.3. Methods and materials for containment and cleaning up

Cover with an inert, inorganic, non-combustible absorbent material (e.g. dry-lime, sand, soda ash). Place in covered containers using non-sparking tools and transport outdoors. Avoid open flames or sources of ignition (e.g. pilot lights on gas hot water heater). Ventilate area and wash spill site after material pickup is complete.

6.4. Reference to other sections

Information regarding exposure controls, personal protection and disposal considerations can be found in sections 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not store or handle this material near food or drinking water. Do not smoke. Avoid contact with the eyes, skin and clothing. Wear protective clothing and use glasses. Observe the rules of safety and hygiene at work. Keep in the original container or an alternative made from a compatible material.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed and preferably full containers in a cool, dry and ventilated area, protected from light. Keep away from sources of ignition (e.g. hot surfaces, sparks, flame and static discharges). Keep away from incompatible materials (see section 10).

7.3. Specific end use(s)

No information available.



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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. Control parameters

Components with occupational exposure limits:

Chemical Name	CAS No.	Norm.	8 hr.		15 mir			
Chemical Name	CAS NO.	Norm.	0 111.	ppm	mg/m ³	ppm	mg/m ³	
CITRAL 5	5392-40-5	ES (España) 1	VLA-ED	5		VLA-EC		
		PL (Polska)	NDS		27	NDSCh		54

¹ Possibility of significant uptake though the skin.

8.2. Exposure controls

Measures should be taken to prevent materials from being splashed into the body. Provide adequate ventilation, according to the conditions of use. Use a mechanical exhaust if required.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face protection:	Chemical safety goggles are recommended. Wash contaminated goggles before reuse.
Hand Protection:	Chemical-resistant gloves are recommended. Wash contaminated gloves before reuse.
Body protection:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved.
Respiratory Protection:	In case of insufficient ventilation, use suitable respiratory equipment.
Environmental exposure controls:	Emissions from ventilation or process equipment should be checked to ensure they comply with environmental protection legislation.
	In some cases, filters or engineering modifications to the process equipment will be necessary to reduce emissions to
	acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid	
Colour:	Conforms to standard	
Odour:	Conforms to standard	
Odour theshold:	Not determined	
pH:	Not determined	
Melting point/freezing point:	Not determined	
Boling point/boiling range (°C):	Not determined	
Flash point:	94 °C	
Evaporation rate:	Not determined	
Flammability:	Not determined	
Lower flammability/Explosive limit:	Not determined	
Upper flammability/Explosive limit:	Not determined	
Vapour pressure:	Not determined	
Vapour Density:	Not determined	
Density:	0,87–0,89 g/mL (20°C)	
Relative density:	0,87—0,89 (20°C)	
Water solubility:	1:2 IN ETHANOL 80°	
Solubility in other solvents:	SOLUBLE IN ETHANOL	
Partition coefficient n-octanol/water:	Not determined	
Auto-ignition temperature:	Not determined	
Decomposition temperature:	Not determined	
Viscosity, dynamic:	Not determined	
Viscosity, kinematic:	Not determined	
Explosive properties:	Not determined	
Oxidising properties:	NONE EXPECTED	

10. STABILITY AND REACTIVITY

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.



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10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to Avoid

Conditions to Avoid: Excessive heat, flame or other ignition sources.

10.5. Incompatible materials

Avoid contact with strong acids and bases and oxidizing agents.

10.6. Hazardous decomposition products

During combustion may form carbon monoxide and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	Harmful if swallowed.	
-	Experimental/calculated data:	
	· LD50(acute/oral) : 300-2000 mg/kg. (Rat). (OECD 420 [2015]).	
	· LD50 (acute/dermal) : >2000 mg/kg. (Rat). (OECD 402 [2015]).	
Skin corrosion/irritation	Causes skin irritation.	
	Experimental/calculated data:	
	· Skin irritation : Non-irritant.	
	The product has not been tested. The indication has been derived from the properties of its individual components.	
Serious eye damage/irritation	Causes serious eye damage.	
	Experimental/calculated data:	
	• Eye irritation : Irritant.	
	The product has not been tested. The indication has been derived from the properties of its individual components.	
Respiratory or skin sensitisation	May cause an allergic skin reaction.	
	Experimental/calculated data:	
	· Skin sensitization : Sensitizing.	
	The product has not been tested. The indication has been derived from the properties of its individual components.	
Germ cell mutagenicity	Based on the data available, the criteria for classification are not met.	
Carcinogenicity	Based on the data available, the criteria for classification are not met.	
Reproductive toxicity	Based on the data available, the criteria for classification are not met.	
STOT-single exposure	Based on the data available, the criteria for classification are not met.	
STOT-repeated exposure	Based on the data available, the criteria for classification are not met.	
Aspiration hazard	May be fatal if swallowed and enters airways.	

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Assessment:

Toxic to aquatic life with long lasting effects. Experimental/calculated data:

- $\cdot~$ Toxicity for fish: LC50 (96h) : 7.5 mg/L. (Oncorhynchus mykiss).
- · Toxicity for aquatic invertebrates: EC50 (48h) : 6 mg/L. (Daphnia magna).
- Toxicity for algae: ErC50 (72h) : 34 mg/L. (Pseudokirchneriella subcapitata).

12.2. Persistence and degradability

The product is readily biodegradable

The product has not been tested. The indication has been derived from the properties of its individual components.

12.3. Bioaccumulative potential

No information available.

12.4. Soil mobility No information available.

12.5. Other adverse effects

See also sections 6, 7, 13 and 15 Do not allow to get into waste water or waterways.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of in accordance with national and local environmental regulations.



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14. TRANSPORT INFORMATION

	ADR/RID/ADN	IMDG	IATA-ICAO	
14.1. UN Number	UN3082	UN3082	UN3082	
14.2. UN Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS	
_	SUBSTANCE, LIQUID, N.O.S.	SUBSTANCE, LIQUID, N.O.S.	SUBSTANCE, LIQUID, N.O.S.	
	(LIMONENE)	(LIMONENE)	(LIMONENE)	
14.3. Transport Hazard Class(es)	9	9	9	
14.4. Packing Group	III	111	111	
14.5. Environmental hazards	Yes	Yes	Yes	
Additional information				

14.6 Special precautions for user

None known

14.7. Maritime transport in bulk according to IMO instruments

No information available

15. REGULATORY INFORMATION

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

No information available

16. OTHER INFORMATION

Full text of the R-phrases, hazard statements and precautionary statements mentioned in section 3:

- H226 Flammable liquid and vapour.
- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H303 May be harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H313 May ne harmful in contact with skin.
- H315 Causes skin irritation.
- H316 Causes mild skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage. H319 - Causes serious eye irritation.
- H400 Very toxic to aquatic life.
- H401 Toxic to aquatic life.
- H402 Harmful to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

The information included in this safety data sheet is based on the available data at the moment this document is issued. It is meant to be a description of safety requirements for our product and does not stand for a guarantee of its properties. The user is responsible for taking all necessary steps leading to compliance with local rules and legislation.