



SAFETY DATA SHEET

CITRONELLA OIL

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME: CITRONELLA OIL

PRODUCT NO: RM077

SYNONYMS, TRADE NAMES: For guidance on permitted use of Citronella Oil refer to HSE Biocides and Pesticides Unit website

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EMERGENCY CONTACT NUMBER:

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture
 Regulation (EC) No 1272/2008

Skin Corrosion/Irritation	Category 2 – (H315)
Serious Eye Damage/Eye Irritation	Category 1 – (H318)
Skin Sensitisation	Category 1 – (H317)
Chronic Aquatic Toxicity	Category 2 – (H411)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Full text of R-Phrases: see Section 16.

Hazard Symbols

Xi – Irritant

N – Dangerous for the environment

R-code(s)

R38; R41; R43; R51/53

Label Elements

Signal Word: Danger
 Hazard Statements: 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 – EU (§28, 1272/2008):

P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 – Immediately call a POISON CENTRE or doctor
 P280 – Wear eye protection/face protection

Other Information

No information available

3 COMPOSITION/INFORMATION ON INGREDIENTSSubstances

Chemical Name	EC-No	CAS-No	Weight - %	Classification according to Directive 67/548/EEC or 1999/45/EC	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Citronellal	203-376-6	106-23-0	30-45	Xi;R38;R43 N;R51/53	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Aquatic Chronic 2 (H411)	No data available
Geraniol	203-377-1	106-24-1	20-35	Xi;R38;R41;R43	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317)	No data available
Laevo Citronellol	231-415-7	7540-51-4	10-20	Xi;R38;R43 N;R51/53	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Aquatic Chronic 2 (H411)	No data available
Limonene	227-813-5	5989-27-5	2-10	FL;R10 Xn;R65 Xi;R38;R43 N;R50/53	Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	No data available
Geranyl Acetate	203-341-5	105-87-3	2-10	Xi;R38;R43 N;R52/53	Skin Irrit. 2 (H315) Skin Sens. 1 (H317)	No data available

					Aquatic Chronic 3 (H412)	
Farnesol	225-004-1	4602-84-0	2-5	Xi;R36/38 R43	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317)	No data available
3,7-Dimethylocta-1,6-dien-3-ol	201-134-4	78-70-6	1-2.5	Xi;R38	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Acute 3 (H402)	No data available
Methyl eugenol	202-223-0	93-15-2	0-1	Xn;R22 Carc. Cat. 3; R40 Muta. Cat. 3; R68; N;R51/53	Muta. 2 (H341) Carc. 2 (H351) Acute Tox. 4 (H302) STOT SE 2 (H371) Aquatic Chronic 2 (H411)	No data available

Full text of R-Phrases: see Section 16

Full text of H and EUH-phrases: see Section 16

4 FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

SKIN CONTACT

Wash off immediately with soap and plenty of water and remove all contaminated clothes and shoes.

EYE CONTACT

Rinse thoroughly with plenty of water for at least 15 minutes lifting lower and upper eyelids. Consult a doctor.

INHALATION

Remove to fresh air.

INGESTION

Clean mouth out with water and drink afterwards plenty of water.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

SYMPTOMS

Skin disorders. May cause an allergic skin reaction. Liquid, aerosols and vapours of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes. See Section 11: TOXICOLOGICAL INFORMATION

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

NOTES TO DOCTORS

Treat symptomatically.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

UNSUITABLE EXTINGUISHING MEDIA

Water.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

ADVICE FOR FIREFIGHTERS

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

6 ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES****PERSONAL PRECAUTIONS**

Ensure adequate ventilation, especially in confined areas.

FOR EMERGENCY RESPONDERS

Use personal protection recommended in Section 8.

ENVIRONMENTAL PRECAUTIONS

See Section 12 for additional Ecological Information.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**METHODS FOR CONTAINMENT**

Prevent further leakage or spillage if safe to do so.

METHODS FOR CLEANING UP

Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal.

REFERENCE TO OTHER SECTIONS

See Section 8 for more information. See Section 13 for more information.

7 HANDLING AND STORAGE**PRECAUTIONS FOR SAFE HANDLING****ADVICE ON SAFE HANDLING**

Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8.

GENERAL HYGIENE CONSIDERATIONS

Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES**STORAGE CONDITIONS**

Keep container tightly closed in a dry and well-ventilated place.

SPECIFIC END USES

No information available.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION**CONTROL PARAMETERS****EXPOSURE LIMITS**

Chemical Name Limonene 5989-27-5	European Union -	United Kingdom -	France TWA: 1000 mg/m3 STEL: 1500 mg/m3	Spain -	Germany TWA: 5 ppm TWA: 28 mg/m3 H*
Chemical Name Limonene 5989-27-5	Italy -	Portugal -	Netherlands -	Finland TWA: 25 ppm TWA: 140 mg/m3 STEL: 50 ppm STEL: 280 mg/m3	Denmark -
Chemical Name Limonene 5989-27-5	Austria -	Switzerland TWA: 7 ppm TWA: 40 mg/m3 STEL: 14 ppm STEL: 80 mg/m3	Poland -	Norway TWA: 25 ppm TWA: 140 mg/m3 STEL: 25 ppm STEL: 140 mg/m3	Ireland -

DERIVED NO EFFECT LEVEL (DNEL)

No information available.

PREDICTED NO EFFECT CONCENTRATION (PNEC)

No information available.

EXPOSURE CONTROLS**ENGINEERING MEASURES**

Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT**EYE/FACE PROTECTION**

Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

HAND PROTECTION

Wear protective gloves.

SKIN AND BODY PROTECTION

Wear suitable protective clothing.

RESPIRATORY PROTECTION

None under normal use conditions.

GENERAL HYGIENE CONSIDERATIONS

Regular cleaning of equipment, work area and clothing is recommended.

ENVIRONMENTAL EXPOSURE CONTROLS

Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained.

9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Colour	Light yellow or light orange
Physical State	Liquid
Odour	No information available
Odour Threshold	No information available
<u>Property</u>	
pH	No information available
Melting Point/Freezing Point	No information available
Boiling Point/Boiling Range	No information available
Flash Point	80°C/176.0°F
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper Flammability Limit	No information available
Lower Flammability Limit	No information available
Vapour Pressure	No information available
Vapour Density	No information available
Specific Gravity	No information available
Water Solubility	No information available
Solubility(ies)	No information available
Partition Coefficient	No information available
Autoignition Temperature	No information available
Decomposition Temperature	No information available

Kinematic Viscosity	No information available
Dynamic Viscosity	No information available
Explosive Properties	No information available
Oxidising Properties	No information available
<u>Other Information</u>	
Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Density	0.892 @ 20°C
Bulk Density	No information available

10 STABILITY AND REACTIVITY

REACTIVITY

No data available.

CHEMICAL STABILITY

Stable under recommended storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS

None under normal processing.

CONDITIONS TO AVOID

Heat, flames and sparks. Exposure to air or moisture over prolonged periods.

INCOMPATIBLE MATERIALS

No information available.

HAZARDOUS DECOMPOSITION PRODUCTS

None under normal use conditions.

11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY

INHALATION

No known effect

EYE CONTACT

No known effect

SKIN CONTACT

No known effect

INGESTION

No known effect

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Citronellal	= 2420 mg/kg (Rat)		
Geraniol	= 3600 mg/kg (Rat)	>5 g/kg (Rabbit)	
Limonene		>5 g/kg (Rabbit)	
Geranyl Acetate	= 6330 mg/kg (Rat)		
Farnesol	6000 mg/kg (Rat)		
3,7-Dimethylocta-1, 6-dien-3-ol	= 2790 mg/kg (Rat)		
Methyl eugenol	= 810 mg/kg (Rat)		

NUMERICAL MEASURES OF TOXICITY – PRODUCT INFORMATION

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 3,801.00

UNKNOWN ACUTE TOXICITY

ACUTE ORAL TOXICITY

0% of the mixture consists of ingredient(s) of unknown acute oral toxicity

ACUTE DERMAL TOXICITY

0% of the mixture consists of ingredient(s) of unknown acute dermal toxicity

ACUTE INHALATION TOXICITY – GAS

0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

ACUTE INHALATION TOXICITY – VAPOUR

0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

ACUTE INHALATION TOXICITY – DUST/MIST

0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

SYMPTOMS

Skin disorders. May cause an allergic skin reaction. Liquid, aerosols and vapours of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

12 ECOLOGICAL INFORMATION

TOXICITY

ECOTOXICITY

Toxic to aquatic life with long lasting effects. May cause long lasting harmful effects to aquatic life.

0% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Limonene	-	0.619-0.796: 96 h Pimephales promelas mg/L LC50 flow-through 35: 96 h Oncorhynchus mykiss mg/L LC50	
3,7-Dimethylocta-1,6-dien-3-ol	88.3: 96 h Desmodismus subspicatus mg/L EC50	-	20: 48 h Daphnia magna mg/L EC50

PERSISTENCE AND DEGRADABILITY

No information available.

BIOACCUMULATIVE POTENTIAL

Chemical Name	Partition Coefficient
3,7-Dimethylocta-1,6-dien-3-ol	3.1

MOBILITY IN SOIL

No information available.

RESULTS OF PBT AND vPvB ASSESSMENT

No information available

OTHER ADVERSE EFFECTS

13 DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

WASTE FROM RESIDUES/UNUSED PRODUCTS

Disposal should be in accordance with applicable regional, national and local laws and regulations.

CONTAMINATED PACKAGING

Improper disposal or reuse of this container may be dangerous and illegal.

14 TRANSPORT INFORMATION

IMDG

UN/ID No	3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CITRONELLA JAVA, CITRONELLAL)
Hazard Class	9
Packing Group	III
Marine Pollutant	This material meets the definition of a marine pollutant
Environmental Hazard	Yes
Special Provisions	None
Environmental Hazard	Yes

ADR/RID

UN/ID No	3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CITRONELLA JAVA, CITRONELLAL)
Hazard Class	9
Packing Group	III
Marine Pollutant	This material meets the definition of a marine pollutant
Environmental Hazard	Yes
Special Provisions	None

IATA

UN/ID No	3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CITRONELLA JAVA, CITRONELLAL)
Hazard Class	9
Packing Group	III
Environmental Hazard	Yes
Special Provisions	None

15 REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Chemical Name	French RG Number	Title
Limonene 5989-27-5	RG 84	-

Water Hazard Class (WGK)

Not determined

EUROPEAN UNION

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

OZONE-DEPLEATING SUBSTANCES (ODS) REGULATION (EC) 1005/2009

Not applicable.

INTERNATIONAL INVENTORIES

TSCA	Complies
EINECS/ELINCS	Complies
DSL/NDSL	Complies
PICCS	Complies
ENCS	Complies
IECSC	Complies
AICS	Complies
KECL	Complies

Legend

TSCA – United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS – European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List

PICCS – Philippines Inventory of Chemicals and Chemical Substances

ENCS – Japan Existing and New Chemical Substances

IECSC – China Inventory of Existing Chemical Substances

AICS – Australian Inventory of Chemical Substances

KECL – Korean Existing and Evaluated Chemical Substances

CHEMICAL SAFETY ASSESSMENT

No information available

16 OTHER INFORMATION

KEY OR LEGEND TO ABBREVIATIONS AND ACRONYMS USED IN THIS SAFETY DATA SHEET

Full texts of R-phrases referred to under sections 2 and 3

R22 – Harmful if swallowed

R38 – Irritating to skin

R41 – Risk of serious damage to eyes

R43 – May cause sensitization by skin contact

R10 – Flammable

R40 – Limited evidence of carcinogenic effect

R65 – Harmful: may cause lung damage if swallowed

R68 – Possible risk of irreversible effects

R36/38 – Irritating to eyes and skin

R51/53 – Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R52/53 – Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under Section 3

H315 – Causes skin irritation

H317 – May cause an allergic skin reaction

H412 – Harmful to aquatic life with long lasting effects
H411 – Toxic to aquatic life with long lasting effects
H318 – Causes serious eye damage
H319 – Causes serious eye irritation
H304 – May be fatal if swallowed and enters airways
H400 – Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H226 – Flammable liquid and vapour
H341 – Suspected of causing genetic defects if inhaled
H351 – Suspected of causing cancer if inhaled
H302 – Harmful if swallowed

LEGEND

SVHC: Substances of Very High Concern for Authorisation

LEGEND SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value		

DISCLAIMER

The foregoing data has been compiled for safety information only and does not form part of any selling specification. Information contained in this SDS is to the best of JML's knowledge correct at the time of publication. However, no guarantee is given to its accuracy, reliability or completeness and the information may not be valid if the product is used in combination with other materials or process. It is the responsibility of the user to ensure that the product which they have selected is entirely suitable for their purpose under their conditions of use and in compliance with current regulatory requirements.