

Revision Number 2

Revision date 07-Dec-2015

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

**Product identifier**

**Product Code** C101901  
**Product name** CITRONELLOL-L

**Other means of identification**

**Synonyms** No information available

**Recommended use of the chemical and restrictions on use**

**Recommended use** Concentrated aromatic raw material intended for manufacturing use

**Details of the Supplier of the Safety Data Sheet**

**Supplier Address**

Takasago International Corporation (USA)  
 4 Volvo Drive  
 Rockleigh, NJ 07647 USA  
 Phone: 1-201-767-9001

**Emergency Telephone Number**

**Company Phone Number** Health & Environmental: 1-201-767-9001 9 a.m - 5 p.m. EST M-F

**Emergency Telephone Number**

CHEMTREC: 1-800-424-9300 24 hours Everyday  
 CHEMTREC (International): 01-703-527-3887 [U.S.A.] 24 hours Everyday

## 2. Hazard identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin Sensitization	Category 1B

**Label Elements**

**Warning**

**Hazard Statements**

Causes skin irritation  
 Causes serious eye irritation  
 May cause an allergic skin reaction



**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
IF ON SKIN: Wash with plenty of soap and water  
Take off contaminated clothing and wash before reuse  
If skin irritation or rash occurs: Get medical advice/attention

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards Not Otherwise Classified (HNOC)**

None known

**Other Information**

Other Hazards None known

**3. Composition/information on Ingredients**

Formula C10H20O  
Hazardous components

	CAS No	Weight-%	Trade secret
Citronellol/laevo	7540-51-4	>=99%	*

**4. First aid measures**

**FIRST AID MEASURES**

**General advice** When in doubt or if symptoms are observed, get medical advice.

**Inhalation** Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician.

**Skin contact** Change contaminated, saturated clothing. After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician.

**Eye contact** In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

**Ingestion** If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting.

**Self-protection of the first aider** Use personal protection recommended in Section 8.

**Most Important Symptoms and Effects, Both Acute and Delayed**

**Symptoms** No known symptoms to date.

**Indication of Any Immediate Medical Attention and Special Treatment Needed**

**Note to physicians** Treat symptomatically.

**5. Fire-fighting measures**

**Suitable extinguishing media**

Foam. Carbon dioxide (CO2). Dry extinguishing powder.

**Large Fire** Alcohol resistant foam. Water spray.

**Unsuitable extinguishing media** Full water jet.

**Specific hazards**

In case of fire may be liberated, Carbon monoxide, Carbon dioxide (CO2), Burning produces heavy smoke, Do not inhale explosion and combustion gases.

**Protective equipment and precautions for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Use water spray jet to protect personnel and to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Remove all sources of ignition. Provide adequate ventilation as well as local exhaust at critical locations. See section 7 for more information.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

**Methods and material for containment and cleaning up**

**Methods for cleaning up** Clean contaminated surface thoroughly.

**7. Handling and Storage**

**Precautions for Safe Handling**

**Advice on safe handling** Avoid contact with skin, eyes or clothing. Wear protective gloves and eye/face protection. See Section 8 for information on appropriate personal protective equipment. Remove all sources of ignition. Provide adequate ventilation as well as local exhaust at critical locations. Handle and open container with care.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed in a cool, well-ventilated place. Store in a dry place. Protect from direct sunlight. Remove all sources of ignition. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

**8. Exposure Controls/Personal Protection**

**Control Parameters**

**Exposure guidelines** This product does not contain any substances with occupational exposure limits established by OSHA under 29 CFR 1910 subpart Z, ACGIH or NIOSH.

**Appropriate Engineering Controls**

**Engineering Controls** Provide adequate ventilation as well as local exhaust at critical locations. Do not subject to unnecessarily high temperatures during processing.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Eye glasses with side protection.
<b>Hand Protection</b>	Wear chemically resistant gloves in combination with 'basic' employee training.
<b>Skin and body protection</b>	Wear appropriate personal protective clothing to prevent skin contact.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and after work. Do not eat, drink or smoke when using this product.

**FEMA Statement** This product does not contain any substances at  $\geq 0.1\%$  listed as High Priority in Table 1 of the Flavor and Extract Manufacturers Association of the United States Respiratory Health and Safety in the Flavor Manufacturing Workplace (2012 edition)  
 This product does not contain any substances at  $\geq 1.0\%$  listed as Low Priority in Table 1 of the Flavor and Extract Manufacturers Association of the United States Respiratory Health and Safety in the Flavor Manufacturing Workplace (2012 edition)

**9. Physical and Chemical Properties**

**Information on basic physical and chemical properties**

<b>Appearance</b>	Liquid
<b>Color</b>	colorless
<b>Odor</b>	Floral, Rose, Fresh
<b>Odor threshold</b>	No data available

<u>Property</u>	<u>VALUES</u>	<u>Remarks • Method</u>
<b>pH</b>	No data available	
<b>Melting point / freezing point</b>	No data available	
<b>Boiling point / boiling range</b>	108-110 °C	@ 10 mmHg
<b>Flash Point</b>	102 °C / 216 °F	Cleveland Open Cup, JIS K 2265-4
<b>Evaporation rate</b>	No data available	
<b>Flammability (solid, gas)</b>	No data available	
<b>Flammability Limit in Air</b>		
<b>Upper Flammability Limit</b>	No data available	
<b>Lower Flammability Limit</b>	No data available	
<b>Vapor pressure</b>	0.0102 mmHg@20°C (calculated)	
<b>Vapor Density</b>	No data available	
<b>Relative Density</b>	0.855-0.861 (D20°C/20°C)	
<b>Relative Density</b>	0.850-0.860(D25°C/25°C)	
<b>Water Solubility</b>	60.54 mg/l (25°C)	(calculated)
<b>Solubility in Other Solvents</b>	soluble in 70% Alcohol	
<b>Partition coefficient</b>	log Kow = 3.55 (calculated)	
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	
<b>Kinematic viscosity</b>	No data available	
<b>Dynamic viscosity</b>	No data available	
<b>Explosive Properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	

**Other Information**

<b>Molecular weight</b>	156.27
<b>Refractive Index</b>	1.453-1.459 (n <sub>20°C/D</sub> )

## 10. Stability and Reactivity

### Reactivity

None under normal use conditions.

### Chemical Stability

Stable under normal conditions. Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to Avoid

Extremes of temperature and direct sunlight. Do not heat closed containers.

### Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

### Hazardous Decomposition Products

None under normal use.

## 11. Toxicological Information

### Information on Likely Routes of Exposure

<b>Product Information</b>	No data available.
<b>Inhalation</b>	No data available.
<b>Eye contact</b>	No data available.
<b>Skin contact</b>	No data available.
<b>Ingestion</b>	No data available.

### Information on Toxicological Effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin Corrosion/Irritation</b>	The material was irritating to guinea pig skin when tested as a closed patch for 6 hours; 0.5% in diethyl phthalate was not irritating, concentrations of 1% to 10% resulted in slight erythema and concentration of 25% to 100% resulted in moderate erythema. A concentration of 1% in propylene glycol was found mildly irritating in rabbits.
<b>Serious eye damage/eye irritation</b>	l-Citronellol was not irritating in a Draize rabbit eye irritation test when applied at a 1% concentration in propylene glycol.
<b>Sensitization</b>	A concentration of 10% in a Buehler guinea pig test with l-citronellol did not produce sensitization responses. A human repeated insult patch test with d,l-citronellol at 25% produced no sensitization reactions.
<b>Mutagenic effects</b>	Not mutagenic in AMES Test.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>Reproductive Toxicity</b>	No information available.
<b>STOT - Single Exposure</b>	No information available.
<b>STOT - Repeated Exposure</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

### Numerical Measures of Toxicity - Product Information

<b>Oral LD50</b>	3450 mg/kg (rats) - d,l-Citronellol
<b>Dermal LD50</b>	2650 mg/kg (rabbit) - d,l-Citronellol

## 12. Ecological Information

<b>Ecotoxicity</b>	Fish (Lenciscus idus): 96hr-LC50 = 10-22 mg/l; Daphnia: 48hr-EC50 = 17 mg/l; Algae: 72hr-EC50 = 2.4 mg/l.
<b>Persistence and Degradability</b>	d,l-Citronellol was readily and ultimately biodegradable by activated sludge (OECD 301C). d,l-Citronellol was anaerobically metabolized under non-enriched conditions by Pseudomonas citronellolis.
<b>Bioaccumulation</b>	No information available
<b>Other Adverse Effects</b>	No information available

## 13. Disposal Considerations

### Waste Treatment Methods

<b>Waste disposal method</b>	Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Do not reuse container.

## 14. Transport Information

### DOT Non-bulk Packaging

<b>UN/ID no</b>	Not regulated
<b>Proper Shipping Name</b>	Not regulated
<b>Hazard class</b>	Not regulated
<b>Packing group</b>	Not regulated
<b>Marine Pollutant</b>	Not applicable

### Air transport

<b>UN/ID no</b>	Not regulated
<b>Proper Shipping Name</b>	Not regulated
<b>Hazard class</b>	Not regulated
<b>Packing group</b>	Not regulated

### IMDG/IMO

<b>UN/ID no</b>	Not regulated
<b>Proper Shipping Name</b>	Not regulated
<b>Hazard class</b>	Not regulated
<b>Packing group</b>	Not regulated
<b>Marine Pollutant</b>	Not applicable

## 15. Regulatory Information

### Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### **SARA 311/312 Hazardous Categorization**

<b>Acute health hazard</b>	Yes
<b>Chronic health hazard</b>	No

Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

## 16. Other Information

Revision date 07-Dec-2015

### Disclaimer

The information in this MSDS was obtained from current and reputable sources. However, the data is provided without any warranty, express or implied regarding its accuracy. Where the handling, storage and disposal of this material is beyond the immediate control of Takasago International Corporation, it shall be the user's responsibility to determine safe conditions for the use of this product. The user assumes all liability for loss, injury damage or expense resulting from the improper use of this product.

**End of Safety Data Sheet**