

## Chemical Safety Data Sheet MSDS / SDS

## Citronellol

Revision Date:2024-11-02 Revision Number:1

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

## Product identifier

Product name : Citronellol  
CBnumber : CB0377986  
CAS : 106-22-9  
EINECS Number : 203-375-0  
Synonyms : CITRONELLOL,β-Citronellol

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## Classification of the substance or mixture

Skin irritation, Category 2  
Skin sensitization, Sub-category 1B  
Eye irritation, Category 2

## Label elements

## Pictogram(s)

☐

Signal word : Warning

## Hazard statement(s)

H303 May be harmful if swallowed  
H313 May be harmful in contact with skin  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H401 Toxic to aquatic life

H411 Toxic to aquatic life with long lasting effects

#### Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

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#### Prevention

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

#### Response

P302+P352 IF ON SKIN: Wash with plenty of water/...

P321 Specific treatment (see ... on this label).

P332+P317 If skin irritation occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

P333+P317 If skin irritation or rash occurs: Get medical help.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### Storage

none

#### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### Other hazards

no data available

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## SECTION 3: Composition/information on ingredients

#### Substance

|              |                                     |
|--------------|-------------------------------------|
| Product name | : Citronellol                       |
| Synonyms     | : CITRONELLOL, $\beta$ -Citronellol |
| CAS          | : 106-22-9                          |
| EC number    | : 203-375-0                         |
| MF           | : C <sub>10</sub> H <sub>20</sub> O |
| MW           | : 156.27                            |

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## SECTION 4: First aid measures

## Description of first aid measures

### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

## Most important symptoms and effects, both acute and delayed

no data available

## Indication of any immediate medical attention and special treatment needed

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Higher alcohols (>3 carbons) and related compounds

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## SECTION 5: Firefighting measures

### Extinguishing media

Wear self-contained breathing apparatus for firefighting if necessary.

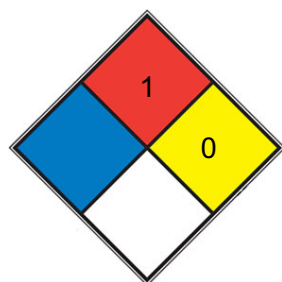
### Specific Hazards Arising from the Chemical

no data available

### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### NFPA 704



■ HEALTH

Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion

☒ FIRE 1 can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

☒ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

☐ SPEC.

☐ HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

ACCIDENTAL RELEASE MEASURES Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Methods and materials for containment and cleaning up Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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## SECTION 7: Handling and storage

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

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

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flamm resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|  |  |
|--|--|
| Physical state   | Liquid   |
| Colour   | Clear almost colorless   |
| Odour  | Fresh rosy odor  |
| Melting point/freezing point                             | 158°C(dec.)(lit.)  |
| Boiling point or initial boiling point and boiling range | 220°C  |
| Flammability   | no data available  |
| Lower and upper explosion limit/flammability limit       | no data available  |
| Flash point  | 102°C(lit.)  |
| Auto-ignition temperature                                | no data available  |
| Decomposition temperature                                | no data available  |
| pH   | no data available  |
| Kinematic viscosity                                      | 11.1 mPa s (dynamic) at 20 deg C; 5.33 mPa s (dynamic) at 40 deg C |
| Solubility   | In water, 200 mg/L at 25 deg C                                     |
| Partition coefficient n-octanol/water                    | log Kow = 3.91   |
| Vapour pressure  | ~0.02 mm Hg ( 25 °C)   |
| Density and/or relative density                          | 0.854  |
| Relative vapour density                                  | 5.4 (vs air)   |
| Particle characteristics                                 | no data available  |

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## SECTION 10: Stability and reactivity

### Reactivity

no data available

### **Chemical stability**

Stable under recommended storage conditions.

### **Possibility of hazardous reactions**

no data available

### **Conditions to avoid**

no data available

### **Incompatible materials**

Strong oxidizing agents

### **Hazardous decomposition products**

Carbon oxides

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## **SECTION 11: Toxicological information**

### **Acute toxicity**

- Oral: LD50 Rats oral 3.45 g/kg
- Inhalation: no data available
- Dermal: no data available

### **Skin corrosion/irritation**

no data available

### **Serious eye damage/irritation**

no data available

### **Respiratory or skin sensitization**

no data available

### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

no data available

## STOT-repeated exposure

no data available

## Aspiration hazard

no data available

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## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### Persistence and degradability

AEROBIC: Citronellol, present at 85 mg/L, reached 80-90% of its theoretical BOD in 4 weeks using an activated sludge inoculum in a screening test comparable to OECD 301F (manometric respirometry) which classified the compound as readily biodegradable(1). Citronellol, present at 218 mg/L, reached 61% of its Theoretical BOD in 5 days using an activated sludge inoculum in a BOD5 method test(1). Citronellol, present at 108 mg/L, reached 65% of its theoretical BOD in 4 weeks using an activated sludge inoculum in the OECD 301C test(modified MITI) which classified the compound as readily biodegradable(2). Citronellol was also found to be readily biodegradable (100% at 15 days) in a DOC Method F test(2). Bacteria isolated from soil (*Pseudomonas mendocina*) efficiently used citronellol as sole source of carbon(3).

### Bioaccumulative potential

An estimated BCF of 177 was calculated in fish for citronellol(SRC), using a log Kow of 3.91(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is high(SRC), provided the compound is not metabolized by the organism(SRC).

### Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of citronellol can be estimated to be 94(SRC). According to a classification scheme(2), this estimated Koc value suggests that citronellol is expected to have high mobility in soil.

### Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to

make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### Safety, health and environmental regulations specific for the product in question

#### European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

#### EC Inventory

Listed.



**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Not Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**PICCS**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

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## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the

appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.