

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

1.1. Product identifier

Product form	: Substance
Trade name	: Citronellol 850
CAS No	: 106-22-9
Product code	: C2500
Formula	: C10H20O
Synonyms	: (+/-)-3,7-dimethyl-6-octen-1-ol / (+/-)-3,7-dimethyloct-6-en-1-ol / (+/-)-citronellol / 2,3-dihydrogeraniol / 2,6-dimethyl-2-octen-8-ol / 3,7-dimethyl-6-octen-1-ol / 3,7-dimethyl-octen-6-ol-1 / 6-octen-1-ol, 3,7-dimethyl- / 6-octen-1-ol, 3,7-dimethyl-, (+/-)- / beta-citronellol / cephrol / citronellol / citronellol 950 / citronellol, dl- / dihydrogeraniol / dl-citronellol / Environmentally hazardous substance, liquid, n.o.s. / FEMA No 2309 / FEMA No 2980 / rhodinol / rodinol
BIG no	: 31095

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

Use of the substance/mixture	: Odorant Odorant: component
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1.3. Details of the supplier of the safety data sheet

CHEMTEX USA
27-29 Dwight Place
Fairfield, 07004 - USA
T 862-702-8900 - F 862-702-8180
contact@chemtexusa.com - www.chemtexusa.com

1.4. Emergency telephone number

Emergency number	: CHEMTEL:(800)255-3924
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
STOT SE 3	H336
STOT SE 3	H335
Asp. Tox. 1	H304
Aquatic Acute 3	H402
Aquatic Chronic 2	H411

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H402 - Harmful to aquatic life
H411 - Toxic to aquatic life with long lasting effects

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- Precautionary statements (GHS-US) :
- P261 - Avoid breathing dust, fume, gas, mist, spray, vapors
 - P264 - Wash skin thoroughly after handling
 - P271 - Use only outdoors or in a well-ventilated area
 - P272 - Contaminated work clothing must not be allowed out of the workplace
 - P273 - Avoid release to the environment
 - P280 - Wear eye protection, face protection, protective clothing, protective gloves
 - P284 - in case of inadequate ventilation
 - P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER
 - P302+P352 - If on skin: Wash with plenty of skin
 - P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 - P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 - P312 - Call a doctor, a POISON CENTER if you feel unwell
 - P321 - Specific treatment (see supplemental first aid label on this label)
 - P331 - Do NOT induce vomiting
 - P332+P313 - If skin irritation occurs: Get medical advice/attention
 - P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
 - P337+P313 - If eye irritation persists: Get medical advice/attention
 - P342+P311 - If experiencing respiratory symptoms: Call a doctor, a POISON CENTER
 - P362 - Take off contaminated clothing and wash it before reuse
 - P362+P364 - Take off contaminated clothing and wash it before reuse
 - P391 - Collect spillage
 - P403+P233 - Store in a well-ventilated place. Keep container tightly closed
 - P405 - Store locked up
 - P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%	Classification (GHS-US)
Citronellol 850 (Main constituent)	(CAS No) 106-22-9	100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general :
- Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation :
- Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

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First-aid measures after skin contact	: Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation persists. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see ... on this label). If skin irritation or rash occurs:
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

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

Symptoms/injuries after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Tingling/irritation of the skin. Causes skin irritation.
Symptoms/injuries after eye contact	: Irritation of the eye tissue. Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Polyvalent foam. Alcohol-resistant foam. BC powder. Carbon dioxide. Sand/earth. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Solid water jet ineffective as extinguishing medium. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD. Material presenting a fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard.
Explosion hazard	: DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.
Reactivity	: Upon combustion: CO and CO ₂ are formed. Prolonged storage: oxidizes on exposure to air.

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Face-shield. Protective clothing. See "Material-Handling" to select protective clothing.
Emergency procedures	: Mark the danger area. No naked flames. Wash contaminated clothes. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill.
- Methods for cleaning up : Take up liquid spill into inert absorbent material, e.g.: sand/earth. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with a soap solution. Wash clothing and equipment after handling. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Do not discharge the waste into the drain. Keep away from naked flames/heat. Use earthed equipment. At temperature > flashpoint: use spark-/explosionproof appliances. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe very strict hygiene - avoid contact. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.
- Hygiene measures : Wash ... thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed.
- Incompatible products : Strong bases. strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases.
- Storage area : Store in a cool area. Keep out of direct sunlight. Store in a dry area. Store in a dark area. Ventilation at floor level. Provide for a tub to collect spills. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: glass.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Citronellol 850 (106-22-9)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

- Personal protective equipment : Avoid all unnecessary exposure.
- Materials for protective clothing : GIVE GOOD RESISTANCE: PVC.
- Hand protection : Gloves. Wear protective gloves.
- Eye protection : Face shield. Chemical goggles or safety glasses.
- Skin and body protection : Protective clothing. Wear suitable protective clothing.
- Respiratory protection : High gas/vapour concentration: gas mask with filter type A. In case of inadequate ventilation wear respiratory protection. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection.
- Other information : When using, do not eat, drink or smoke.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colourless
Odor	: Floral odour
Odor threshold	: No data available
pH	: No data available
Melting point	: < -20 °C
Freezing point	: No data available
Boiling point	: 222 °C
Flash point	: > 102 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: < 1 hPa
Relative density	: 0.86
Relative vapor density at 20 °C	: 5.4
Specific gravity / density	: 859 kg/m ³
Molecular mass	: 156.27 g/mol
Solubility	: Poorly soluble in water. Soluble in ethanol. Soluble in ether. Soluble in propyleneglycol. Soluble in oil. Ethanol: Complete
Log Pow	: 3.41 - 3.91
Log Kow	: No data available
Auto-ignition temperature	: 240 °C
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

VOC content	: 0 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Slightly volatile. Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed. Prolonged storage: oxidizes on exposure to air.

10.2. Chemical stability

Unstable on exposure to air. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Citronellol 850 (106-22-9)	
LD50 oral rat	3450 mg/kg (Rat)
LD50 dermal rabbit	2650 mg/kg (Rabbit)
ATE US (oral)	3450.000 mg/kg body weight
ATE US (dermal)	2650.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness. May cause respiratory irritation.
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : May be fatal if swallowed and enters airways.
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact : Tingling/irritation of the skin. Causes skin irritation.
Symptoms/injuries after eye contact : Irritation of the eye tissue. Causes serious eye irritation.
Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.
Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Dangerous for the environment.
Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Mild water pollutant (surface water). Harmful to fishes. Harmful to invertebrates (Daphnia). Toxic to algae. Not harmful to activated sludge. Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

Citronellol 850 (106-22-9)	
LC50 fish 1	> mg/l >10 <22,96 h; Leuciscus idus
EC50 Daphnia 1	17 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	2.4 mg/l (72 h; Algae)

12.2. Persistence and degradability

Citronellol 850 (106-22-9)	
Persistence and degradability	Readily biodegradable in water. May cause long-term adverse effects in the environment.
Chemical oxygen demand (COD)	2.050 g O ₂ /g substance
ThOD	2.961 g O ₂ /g substance

12.3. Bioaccumulative potential

Citronellol 850 (106-22-9)	
Log Pow	3.41 - 3.91
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

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12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Additional information : Hazardous waste according to Directive 2008/98/EC.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

Additional information

Other information : No supplementary information available.

ADR

Transport document description : UN 3082, 9, III, (E)
Packing group (ADR) : III
Class (ADR) : 9 - Miscellaneous dangerous substances and articles
Hazard identification number (Kemler No.) : 90
Classification code (ADR) : M6
Hazard labels (ADR) : 9 - Miscellaneous dangerous compounds



Orange plates : Two orange rectangular plates with black borders. The top plate contains the number '90' and the bottom plate contains the number '3082' in black text.

Tunnel restriction code (ADR) : E

Transport by sea

UN-No. (IMDG) : 3082
Class (IMDG) : 9 - Miscellaneous dangerous compounds
EmS-No. (1) : F-A
EmS-No. (2) : S-F

Air transport

UN-No. (IATA) : 3082
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III - Minor Danger

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SECTION 15: Regulatory information

15.1. US Federal regulations

Citronellol 850 (106-22-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Eye Irrit. 2 H319

Skin Irrit. 2 H315

Skin Sens. 1B H317

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36/38

R43

N; R51/53

Full text of R-phrases: see section 16

National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Other information : None.

Full text of H-phrases:

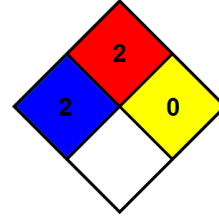
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Asp. Tox. 1	Aspiration hazard Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Resp. Sens. 1	Respiratory sensitisation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects

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NFPA health hazard	: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA fire hazard	: 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

Disclaimer:

150 River Road, Suite G3B, Montville, NJ 07045. Ph. # (973) 335-2500; Fax # (973) 335-2552.

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