

Technical Data Sheet (TDS)

- Citronellol

Product Number: C-20260215 | **CAS No.:** 106-22-9 | **Revision Date:** 15 FEB 2026 **Brand:** SIGALD |

Molecular Formula: C₁₀ H₂₀ O | **Molecular Weight:** 156.27 g/mol

1. Product Overview

Citronellol is a naturally occurring monoterpene alcohol, a key component of rose, citronella and geranium essential oils. It is a colorless clear liquid with a characteristic fresh rose and citrus-like fragrance, manufactured by high-purity distillation of natural plant essential oils or synthetic synthesis, meeting food, cosmetic, fragrance and industrial grade standards.

As a multifunctional fine chemical raw material, Citronellol has excellent fragrance properties, natural insect repellent activity and good chemical reactivity. It is widely used in flavor & fragrance, cosmetic, daily chemical, pharmaceutical and agricultural industries, with the advantages of pure fragrance, high purity and stable performance (stabilized with antioxidant to prevent oxidation).

Core Characteristics: High purity (≥98.0%); characteristic fresh rose/citrus fragrance; natural insect repellent effect; good chemical reactivity for organic synthesis; food/cosmetic grade available; stabilized with BHT to prevent peroxide formation; miscible with most organic solvents.

2. Technical Specifications (Complies with Food/Cosmetic/Fragrance/Industrial Grade Standards)

Item	Specification (Grade: Food/Cosmetic/Fragrance/Industrial)	Result (This Batch)
Appearance	Colorless to pale yellow clear liquid	Colorless clear liquid
Assay (Citronellol)	≥98.0%	98.8%
Melting Point	-7 ~ -4°C	-5.8°C
Boiling Point	220 ~ 222°C	221.5°C
Refractive Index (20°C)	1.4520 ~ 1.4580	1.4553
Relative Density (20/20°C)	0.850 ~ 0.856	0.853
Flash Point (Closed Cup)	≥85°C	88°C
Optical Rotation (20°C)	-2° ~ +2°	+0.5°
Water Content	≤0.1%	0.04%
Heavy Metals (Pb)	≤5 ppm	1.1 ppm
Heavy Metals (As)	≤1 ppm	0.2 ppm
Residue on Ignition	≤0.05%	0.02%
Odor	Characteristic fresh rose/citrus fragrance, no off-odor	Conforms to standard
Solubility	Miscible with ethanol, ether, most organic solvents	Conforms to standard
Antioxidant Content (BHT)	≤0.01% (stabilizer)	0.006%

3. Product Advantages

- High Purity & Stable Quality:** Assay ≥98.0%, low impurity and water content; each batch has consistent physical and chemical indicators; stabilized with BHT to prevent oxidation and peroxide formation, extending shelf life and ensuring performance stability.
- Natural & Safe:** Natural grade derived from plant essential oils (GRAS certified by FDA for food use); cosmetic grade meets international cosmetic safety standards, low irritation (excluding sensitization in special populations); safe for daily use in compliance with regulations.
- Excellent Fragrance Property:** Pure fresh rose/citrus fragrance, no pungent off-odor; is a core base material for rose and floral fragrance formulation, with good fragrance fixing and blending effects, widely used in high-end fragrance and cosmetic products.



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4. **Natural Insect Repellent:** Has inherent repellent activity against mosquitoes, flies and other insects; no toxic components, suitable for the production of green and natural insect repellent products.

4. Application Fields

4.1 Flavor & Fragrance Industry

- **Perfume Formulation:** Core raw material for rose, jasmine, lily, citrus and floral fruity fragrances; used in high-end perfume, cologne, fragrance oil and scented candle, with excellent fragrance fixing effect.
- **Cosmetic Fragrance:** Formulation of shampoo, body wash, soap, lotion, cream and perfume spray fragrance; fresh and mild scent, popular in daily chemical and cosmetic products.
- **Food Flavor:** Flavoring agent for candy, beverage, pastry, ice cream and dairy products (complies with food additive use standards, low dosage); mainly used for rose, citrus and fruit flavor formulation.

5. Usage Methods & Dosage

5.1 General Usage Principles

- Operate in a well-ventilated area; keep away from heat, sparks and open flames (combustible liquid).
- Avoid direct contact with skin and eyes; wear appropriate PPE during handling (refer to MSDS Section 8); sensitive individuals should avoid repeated contact.
- For fragrance/flavor formulation: Dilute first with ethanol/propylene glycol (1:10 ~ 1:100) then add to the system; stir evenly to avoid local high concentration.
- For insect repellent product production: Use directly or blend with other plant essential oils (e.g., lemongrass oil, eucalyptus oil); adjust the dosage according to repellent effect requirements.
- For organic synthesis: Use as a raw material directly; adjust the dosage according to the reaction formula and process requirements; add extra antioxidant if long-term reaction is required.
- For cosmetic formulation: Add at the final stage of production (temperature $\leq 40^{\circ}\text{C}$) to avoid volatilization and oxidation; stir evenly.

5.2 Recommended Dosage (Adjust according to specific product requirements)

Application Field	Recommended Dosage (w/w)
Perfume formulation	8-30%
Cosmetic fragrance (shampoo/body wash/soap)	0.2-3%
Food flavor formulation	0.001-0.05% (GB 2760/FDA standard)
Natural insect repellent liquid/spray	5-20%
Pharmaceutical/fine chemical synthesis	According to reaction process
Household cleaner additive	0.1-0.8%
Aromatherapy products	2-15%

6. Packaging & Storage

6.1 Packaging Specifications

- **Lab/Small Scale:** 100 mL, 500 mL dark glass bottles (sealed)
- **Commercial Medium Scale:** 5 kg, 25 kg HDPE plastic drums (sealed, dark)
- **Bulk Large Scale:** 200 kg HDPE plastic drums, 1000 kg IBC totes (inner lining with anti-corrosion film, dark)
- **Custom Packaging:** Available upon customer request (e.g., 1 L, 10 kg dark glass/HDPE containers; food grade packaging for food/cosmetic use)

7. Safety & Protection

1. The product is a Class 4 combustible liquid; keep away from heat, sparks and open flames in all handling, storage and transport processes.
2. May cause skin/eye irritation and allergic skin reaction in sensitive individuals; avoid direct contact with skin, eyes and respiratory tract; wear nitrile rubber gloves, chemical splash goggles and protective mask during large-scale handling.
3. Toxic to aquatic organisms with long-lasting effects; avoid release to water, soil and sewage systems; collect all spills and dispose of properly.