

Technical Data Sheet (TDS)

- Basil Oil

Revision Date: 24 February 2026 **Product Number:** BO-20260224 **CAS Number:** 501-53-1 **Main Component:** Linalool (C₁₀ H₁₈ O, ≥60%) **Source:** Steam-distilled from *Ocimum basilicum* fresh leaves and stems

1. Product Overview

Basil Oil is a premium natural essential oil extracted by steam distillation from fresh basil leaves and stems, with linalool as the core active component (≥60%). It features a fresh, sweet, characteristic basil aromatic scent with subtle floral and herbal undertones. The product has excellent fragrance retention, antibacterial and antioxidant properties, and is widely used in cosmetics, perfumes, food flavors, daily chemicals, aromatherapy and natural health products. As a pure plant extract, it complies with international essential oil quality standards and is suitable for various natural formulation systems with no artificial additives.

2. Technical Specifications

Item	Specification
Appearance	Colorless to pale yellow clear mobile liquid
Linalool Content (GC)	≥ 60.0%
Odor	Characteristic sweet basil aromatic scent
Refractive Index (20°C)	1.4650-1.4750
Relative Density (20/20°C)	0.915-0.935
Optical Rotation (20°C)	-10° to +10°
Solubility	1:3 soluble in 70% ethanol (clear); miscible with organic solvents/essential oils; slightly soluble in water
Flash Point (Closed Cup)	≥ 85°C
Water Content	≤ 0.5%
Heavy Metals (Pb)	≤ 5 ppm
Heavy Metals (As)	≤ 1 ppm
Total Bacterial Count	≤ 100 CFU/mL
E. coli	Negative
Temperature Stability	Stable at 5-35°C (fragrance retention ≥90%)
pH Stability	Stable at pH 5.0-8.0 (no performance degradation)

3. Product Advantages

- 100% Natural Origin:** Steam-distilled from fresh basil, no synthetic additives, pure plant extract with authentic aroma.
- High Active Content:** Linalool ≥60%, excellent antibacterial, antioxidant and fragrance performance.
- Pleasant & Long-Lasting Aroma:** Fresh sweet basil scent, good compatibility with other fragrances, lasting fragrance release.
- Multi-functional:** Integrates fragrance, antibacterial, antioxidant effects, one material for multiple cosmetic/daily chemical applications.
- Wide Compliance:** Meets IFRA, FCC and ISO essential oil standards, suitable for cosmetic, food and aromatherapy grade formulations.
- Good Compatibility:** Miscible with most organic solvents, vegetable oils and cosmetic raw materials, easy to formulate.

4. Application Fields



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- **Cosmetics & Skin Care:** Facial care, body wash, shampoo, conditioner, soap; natural fragrance, antibacterial and antioxidant ingredient.
- **Perfumes & Fragrances:** Perfume, eau de toilette, cologne formulation; fragrance enhancer for household air fresheners.
- **Food & Flavor:** Food flavor enhancer (bakery, beverage, dairy, condiments); natural food additive (food grade only).
- **Daily Chemicals:** Laundry detergent, fabric softener, dish soap; natural fragrance and mild antibacterial agent.
- **Aromatherapy & Health:** Aromatherapy oil for relaxation; raw material for natural health and wellness products.
- **Other:** Natural insect repellent, industrial natural fragrance, pet care product additive.

5. Usage Methods

- **Dosage (adjust according to scenario and odor intensity):**

- Cosmetics/skin care: 0.1-3.0% (by weight)
- Food flavor: 0.005-0.5% (by weight, food grade only)
- Perfumes/fragrances: 1.0-15.0% (by weight)
- Aromatherapy: 1-3 drops per 100 mL carrier oil
- Daily chemicals: 0.5-5.0% (by weight)

- **Mixing Method:** Dilute with vegetable oil/ethanol (1:5-1:10) first for water-based systems, then add to the formula and stir evenly; add directly to oil-based systems at room temperature (20-30°C).
- **Optimal Conditions:** Apply at 15-35°C, avoid direct sunlight and high temperature (>40°C); reapply or replenish as needed for fragrance retention.

6. Packaging & Storage

Packaging Specifications

- 100 mL/500 mL brown glass bottle (household/small batch/aromatherapy use)
- 5 kg/20 kg brown glass drum (sample/industrial use)
- 200 kg stainless steel drum (bulk industrial/cosmetic use)
- Custom packaging available upon request (food grade with food contact certification)

Storage Conditions

- Store in a **cool, dark, well-ventilated warehouse at 5-25°C**; use brown glass/stainless steel containers and keep tightly sealed to prevent oxidation and volatilization.
- Avoid direct sunlight, high temperature (>30°C), open flame and long-term contact with air.
- Store separately from strong acids, strong bases, oxidizing agents and excessive water-based materials.
- **Shelf Life:** 24 months (unopened, under specified storage conditions); 6 months after opening (sealed and refrigerated at 5-10°C).

Transportation

- Classified as **non-hazardous goods** for transport; transport by ordinary closed vehicles.
- Avoid collision, leakage, direct sunlight and high temperature during transportation; prevent mixing with incompatible materials.
- Protect the package from extreme temperature ($\leq 0^{\circ}\text{C}$ or $\geq 35^{\circ}\text{C}$) during transit.

7. Safety & Protection

- The product is mild, but undiluted oil may cause mild skin/eye irritation in sensitive individuals; avoid undiluted direct contact with skin and mucous membranes.
- Wear nitrile rubber gloves and safety glasses during large-scale handling and dispensing; avoid contact with eyes and mouth.
- In case of eye contact: rinse with plenty of running water for 5-10 minutes; consult a doctor if irritation persists.
- In case of skin contact: rinse with soap and water; apply natural vegetable oil to relieve mild irritation if needed.
- Do not ingest undiluted oil; if accidentally swallowed, rinse mouth with water and consult a doctor immediately.