

Technical Data Sheet (TDS)

- Lime Oil

Revision Date: 24 February 2026 **Product Number:** LO-20260224 **CAS Number:** 8008-26-2 **Main**

Component: Limonene ($\geq 60\%$), β -Pinene, Citral **Source:** Cold pressed from fresh peels of *Citrus aurantifolia* (Mexican Lime)

1. Product Overview

Lime Oil is a premium essential oil obtained by cold pressing the fresh peels of Mexican lime fruits. It is prized for its bright, fresh, and intensely zesty citrus aroma. As a key ingredient in the fragrance and flavor industry, it provides a characteristic top note. This cold-pressed oil retains high levels of natural antioxidants and flavor compounds, making it ideal for both cosmetic formulations and food applications. It is 100% natural, free from synthetics, and compliant with major international standards.

2. Technical Specifications

Item	Specification
Physical State	Mobile liquid (25°C)
Color	Pale yellow to greenish
Aroma	Fresh, sharp, zesty citrus
Limonene Content	$\geq 60.0\%$ (GC)
Relative Density (20/20°C)	0.849 - 0.856
Refractive Index (20°C)	1.4720 - 1.4760
Optical Rotation	+35° to +45°
Flash Point (Closed Cup)	45°C (Flammable)
Solubility	Soluble in alcohols, fixed oils, and organic solvents; Insoluble in water
Stability	Susceptible to oxidation. Protect from heat and light.

3. Product Advantages

- Cold Pressed Quality:** No heat damage, preserving the most authentic aroma and active compounds.
- High Purity:** Free from solvent residues, artificial fragrances, or colorants.
- Versatile:** Perfect for both fragrance (top note) and food flavor applications.
- Stable Supply:** Consistent quality and batch uniformity.
- Regulatory Clear:** Complies with IFRA, REACH, and FDA regulations.

4. Application Fields

- Perfumery & Fragrances:** Cologne, eau de toilette, soaps, and detergents (provides a fresh top note).
- Food & Beverage:** Carbonated drinks, confectionery, baked goods, and sauces (food grade only).
- Cosmetics:** Face washes, body sprays, and hair care products for a refreshing scent.
- Household Products:** Air fresheners, cleaning products, and candle making.
- Aromatherapy:** Used for its uplifting and energizing properties.

5. Usage Methods

5.1 Recommended Dosage (by weight)

- Fine Fragrance:** 1.0% - 5.0%
- Cosmetics & Toiletries:** 0.1% - 1.0%

- **Food Flavoring:** 0.01% - 0.1% (strictly follow GMP)
- **Household Cleaners:** 0.5% - 3.0%

5.2 Formulation Guidelines

1. **Oil-Based Systems:** Add directly at any stage with adequate stirring.
2. **Water-Based Systems:** Lime Oil is oil-soluble. Use a suitable solubilizer (e.g., Polysorbate 80) or emulsifier to incorporate into lotions or sprays.
3. **Stabilization:** Due to high limonene content, it is prone to oxidation. Add natural antioxidants (e.g., Vitamin E, Rosemary Extract) and store in dark containers.
4. **Photosensitivity Warning:** Contains citrus compounds that may cause photosensitivity. Avoid adding to products intended for sun-exposed skin unless properly formulated.

6. Packaging & Storage

- **Packaging:** 100mL/500mL amber glass bottles; 5kg/20kg amber glass drums; 180kg stainless steel drums (nitrogen-flushed).
- **Storage:** Store in a **cool, dark place at 5-20°C**. Keep tightly sealed to prevent oxidation and evaporation.
- **Shelf Life:** 18 months (unopened, under recommended conditions). Use within 3 months of opening.
- **Transport:** Classified as a **Flammable Liquid (Class 3)**. Transport in compliance with all applicable regulations for flammable goods.

7. Quality Assurance

- Manufactured in an ISO 9001 and GMP certified facility.
- Each batch is tested for identity, purity, and microbial contamination.
- Free from GMOs, allergens, and heavy metals.