

Certificate of Analysis (COA)

- Lime Oil (Cold Pressed)

Issue Date: 24 February 2026

Product Name: Lime Oil (Citrus aurantifolia)

CAS Number: 8008-26-2

Product Number: LO-20260224

Batch Number: LO-SH2026022401

Brand: SIGALD

Formula: Natural essential oil mixture (Main component: Limonene $\geq 60\%$)

Quality Release Date: 24 February 2026

Test	Specification (Fragrance/Food Grade)	Result	Unit	Test Method
Appearance	Pale yellow to greenish clear liquid	Pale greenish clear liquid	-	Visual Inspection (25°C)
Odor	Characteristic fresh, zesty citrus lime	Typical lime aroma	-	Sensory Test (IFRA)
Limonene Content $\geq 60.0\%$		65.8%	%	Gas Chromatography (GC-FID)
Refractive Index (20°C)	1.4720 - 1.4760	1.4742	-	Abbe Refractometer
Relative Density (20/20°C)	0.849 - 0.856	0.852	g/cm ³	Digital Density Meter
Optical Rotation (20°C)	+35° to +45°	+40.3°	°	Polarimeter
Solubility in 95% Ethanol	1:10 soluble, clear	1:10 clear solution	-	Volumetric Method
Acid Value	≤ 2.0	0.8	mg KOH/g	Titration
Peroxide Value	≤ 10.0	3.2	meq O ₂ /kg	Titration
Water Content	$\leq 0.2\%$	0.08%	%	Karl Fischer Titration
Heavy Metals (Pb) ≤ 2 ppm		< 0.5 ppm	ppm	ICP-MS
Residual Pesticides ND (Not Detected)		ND	ppm	GC-MS
Total Bacterial Count	≤ 10 CFU/mL	< 1 CFU/mL	CFU/mL	Plate Count

Certification

This batch of Lime Oil conforms to the specifications of ISO 4720 and FCC VIII. All test results meet the quality requirements for use in fragrances, cosmetics, and food flavorings.