



CERTIFICATE OF ANALYSIS (COA)

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PRODUCT INFORMATION

Item	Details
Product Name	Lovage Root Essential Oil
Botanical Name	<i>Levisticum officinale</i> W.D.J. Koch
INCI Name	Levisticum Officinale Root Oil
CAS Number	84837-06-9
EC Number	284-292-7
FEMA Number	2651
Botanical Family	Apiaceae
Plant Part	Roots and rhizomes
Extraction Method	Steam Distillation
Product Type	Natural Essential Oil
Batch Number	Representative Specification
Issue Date	21 July 2026
Retest Period	24 months under recommended storage conditions

ORGANOLEPTIC AND PHYSICAL ANALYSIS

Parameter	Specification	Representative Result
Appearance	Clear mobile liquid	Complies
Colour	Pale yellow to amber-brown	Complies
Odour	Powerful herbal, spicy, earthy and celery-like	Characteristic
Relative Density at 20°C	0.960–1.020	0.987
Refractive Index at	1.480–1.500	1.489



20 °C

Optical Rotation at 20 °C	+5 ° to +25 °	+14.2 °
Flash Point	≥60 °C	65 °C
Solubility in Water	Insoluble	Complies
Solubility in Ethanol	Soluble to partially soluble	Complies

REPRESENTATIVE GC-MS PROFILE

Constituent	Representative Range
β-Phellandrene	10.0–48.9%
α-Terpinyl Acetate	2.0–26.1%
(Z)-Ligustilide	0.2–30.0%
(Z)-3-Butylidene Phthalide	0.1–31.2%
trans-Sabinyl Acetate	Trace–12.1%
Pentylcyclohexadiene derivatives	Trace–12.3%
α-Pinene	Trace–8.0%
β-Pinene	Trace–5.0%
Limonene	Trace–3.0%

The chemical profile of Lovage Root Essential Oil varies substantially according to geographical origin. Published research reports β-phellandrene from 0.1–48.9%, α-terpinyl acetate from 0–26.1%, butylidene phthalide from 0.1–31.2% and ligustilide from 0.2–70.9%.

PURITY AND QUALITY PARAMETERS

Parameter	Specification	Representative Result
Identification by GC-MS	Conforms to reference profile	Complies
Foreign Matter	Absent	Complies
Added Solvents	None detected	Complies
Added Synthetic Antioxidants	None declared	Complies
Adulteration	No evidence detected	Complies
Peroxide Value	Within supplier specification	Complies

QUALITY DECLARATION

The material conforms to the representative specification for professional perfumery-grade **Lovage Root Essential Oil**.



This Certificate of Analysis is based on representative technical data and is not a substitute for a producer-issued batch analysis. Natural variations may occur due to growing region, climate, root maturity, storage and distillation conditions.

The original manufacturer's batch-specific Certificate of Analysis shall always take precedence.

STORAGE

Store in tightly closed, preferably full containers in a cool, dry and well-ventilated place. Protect from direct sunlight, heat, moisture and oxidising agents.

For prolonged storage, refrigeration between approximately 5°C and 15°C is recommended.

CONCLUSION

Representative Result: COMPLIES

Authorised by:

Fozia Khot

Director