

Specification Sheet

Product: LEMA® Oil

(*Leptospermum scoparium*, *Melaleuca alternifolia*)

Product Code: LEMA

Example Batch No.: L110116

Origin & Physical Properties¹

Country of Origin	New Zealand
Materials Source	New Zealand & Australia
Plant Part Used	Aerial Leaf & twig
Extraction Method	Steam Distillation
Viscosity ²	Mobile Liquid
Colour	Clear to Pale Orange/Yellow
Odour	Pleasant & Sanitary (Dominated by Tea Tree)
Flash Point @ 20°C	> 60 (60 - 80)
Refractive Index @20°C (Typical)	1.485 (1.480 - 1.490)
Specific Gravity @ 20°C (Typical)	0.935 (0.850 - 0.950)
Moisture Content (Visual)	No visible water @ 20°C
CAS No's.	[223749-44-8], [68647-73-4]
Shelf Life ³	4 Years Bulk

¹Typical ranges for LEMA® Oil.

²Viscosity is temperature dependent.

³4 Years if unopened and stored under optimum storage conditions (sealed, away from direct sunlight and in cool), Longer is subject to retesting.

LEMA Oil Specification

Key Compounds For LEMA® Oil

(% Area by GC-FID/MS, as tested by independent accredited lab SCPS⁴)

Chemical Compounds	Specification ⁵ (%)	Example Batch No. L110116 (%)
α-pinene	0 - 2.5	0.08
α-terpinene	0.5 - 6.0	1.41
p-cymene	1.0 - 1.9	1.13
1,8-cineole (Eucalyptol)	0.6 - 1.9	0.90
γ-terpinene	4.0 - 11.0	6.06
terpinolene	0.9 - 1.7	1.42
terpinen-4-ol	20 - 55	51.63
α-terpineol	1.0 - 5.0	4.17
aromadendrene	1.0 - 3.0	2.25
δ-cadinene	1.0 - 3.5	2.60
cis-calamenene	1.5 - 6.0	2.06
flavesone (<i>β</i> -Triketone)	0.4 - 3.0	0.63
iso-leptospermone (<i>β</i> -Triketone)	0.6 - 3.0	0.89
leptospermone (<i>β</i> -Triketone)	3.5 - 9.0	4.28

⁴Southern Cross Plant Science; Analytical Research Laboratory Australia.

⁵Specification Standard for LEMA® Oil by New Zealand Manuka Bioactives Ltd. Product is formulated for efficacy and specification range may vary.

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 Dr Wayne M. Campbell
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 New Zealand Manuka Bioactives Ltd