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Certificate of Analysis: Tea Tree Essential Oil, *Melaleuca alternifolia*, Australia.

Batch No: AU-TT866

Date of Manufacture: 9 June 2014

Expiry Date: 9 June 2017

Method: Area Normalisation Based On Iso 7609:1985

Sample: Oil of *Melaleuca alternifolia* (Maiden & Betche) Cheel

Australian Tea Tree Oil – Terpinen-4-ol Type

No.	COMPONENT	SAMPLE CODE	ISO 4730
		TT866	RANGE (%)
1	alpha-pinene	2.6	1 - 6
2	sabinene	0.2	trace - 3.5
3	alpha-terpinene	9.8	5 - 13
4	para-cymene	2.8	0.5 - 8
5	limonene*	1.0	0.5 - 1.5
6	1,8-cineole	2.3	trace - 15
7	gamma-terpinene	21.2	10 - 28
8	terpinolene	3.5	1.5 - 5
9	terpinen-4-ol	41.8	30 - 48
10	alpha-terpineol	2.7	1.5 - 8
11	aromadendrene	1.4	trace - 3
12	ledene**	1.4	trace - 3
13	delta-cadinene	1.2	trace - 3
14	globulol	0.3	trace - 1
15	viridiflorol	0.2	trace - 1

* Limonene and beta-phellandrene coelute on this column.

** Ledene is synonymous with viridiflorene.

Instrument: Varian 3700 Gas Chromatograph linked to Varian Star 5.2 Chromatography Workstation

Column: Hewlett Packard HP-5MS, 30m x 0.25mm x 0.25µm

Carrier Gas: Hydrogen @ 100kPa

Injection Port: Nominal Split 1:50 @ 2500C

Injector Temperature: 2500C

Detector: FID

Detector Temperature: 3000C

Temperature Program: 500C (hold 2 minutes), 50-3000C @ 40C/minute (hold 1 minute)

Integration: Area Normalisation % of Total FID Response

316 Old Hickory Blvd East, Madison TN 37115

tel (615) 612-4270 fax (615) 860-9171

orderdesk@naturesgift.com