



PLANT THERAPY

100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: N20100

ESSENTIAL OIL: NIAOULI

BOTANICAL NAME: MELALEUCA QUINQUINERVA

ORIGIN: MADAGASCAR

KEY CONSTITUENTS PRESENT IN THIS BATCH OF NIAOULI OIL	%
1,8-CINEOLE	56.8
α -PINENE + α -THUJENE	11.3
LIMONENE	8.2
α -TERPINEOL	4.5
VIRIDIFLOROL	3.8
β -PINENE	2.9
TERPINYL ACETATE	1.7
β -CARYOPHYLLENE	1.3

Comments from Robert Tisserand: An excellent niaouli oil with expected levels of key constituents.

Customer :

**PLANT THERAPY
126 Locust Street South
Twin Falls, ID 83 301
USA**

Sample nature: ESSENTIAL OIL
Botanical name: MELALEUCA QUINQUINERVIA
Reference name: NIAOULI
Batch number: N20100
Origin: MADAGASCAR
Part: LEAF
Pyrenessences reference: D231
Date of reception: 03/19/2015
Date analysis: 04/11/2015
Packaging: Amber flask of 4 ml - ambient temperature
Wanted analysis: Classic

Report validated by :

Daniel Dantin



GAS CHROMATOGRAPHY (norm NF ISO 11024)

Conditions :

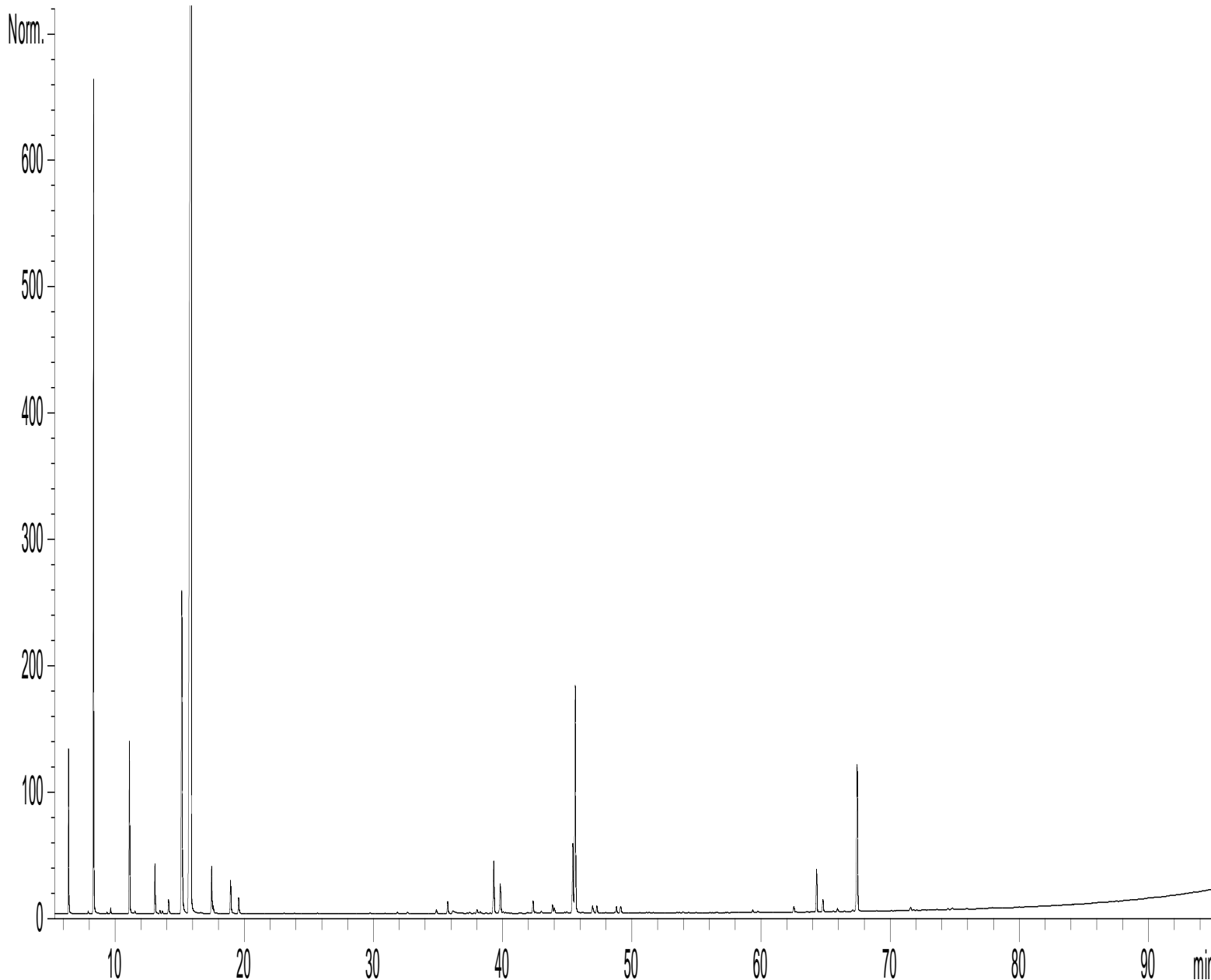
- GC: 6890 - SM : 5973 AGILENT : Column VF WAX polar : 60 m × 0,25 mm × 0,5 µm
- GC/FID 6890 AGILENT : Column VF WAX polar : 60 m × 0,25 mm × 0,5 µm
- Programmation : 6 min to 60°C – 2°C/min → 250°C – 10 min to 250°C
- Carrier gas : He 30 psi/FID ; 23 psi/MS
- Dilution: 10 % in Hexane
- Mass : 30 à 350
- Sample injection : 1 µL

Mass range : 30 to 350, Oil components are identified by a combination of retention times (our own database) and mass spectra library NIST 75 000 records,

Percentages are calculated from GC/FID peaks areas without using corrections factors,

Chromatographic profile (GC/FID) :

FID1 A, (Z:\PLANTHER\MQ15D231.D)



Identification results 1 – NIAOULI BATCH N20100

Peak	RT (min)	Compound	%	Norm (%)	Allergens (%)
1	7,9	METHYL 2-METHYLBUTYRATE	0,03		
2	8,3	α -PINENE + α -THUYENE	11,26		
3	9,4	α -FENCHENE	0,02		
4	9,7	CAMPHENE	0,09		
5	11,1	β -PINENE	2,87		
6	11,5	SABINENE	0,03		
7	13,1	β -MYRCENE	0,90		
8	13,5	α -PHELLANDRENE	0,06		
9	13,7	ψ -LIMONENE	0,05		
10	14,1	α -TERPINENE	0,29		
11	15,2	LIMONENE	8,15		8,15
12	15,9	1-8- CINEOLE	56,75		
13	16,6	Cis- β -OCIMENE	0,02		
14	17,5	γ -TERPINENE	0,92		
15	17,6	Trans- β -OCIMENE	0,15		
16	17,8	STYRENE	0,01		
17	18,9	p-CYMENE	0,72		
18	19,6	TERPINOLENE	0,33		
19	23,1	6-METHYL-5-HEPTEN-2-ONE	0,01		
20	23,9	ROSE cis-OXIDE	0,01		
21	26,6	3-HEXEN-1-OL	0,01		
22	29,7	α ,p-DIMETHYLSTYRENE	0,01		
23	29,8	LINALOOL cis-OXIDE	0,01		
24	30,9	LINALOOL trans-OXIDE	0,01		
25	31,8	SESQUITERPENE	0,03		
26	32,6	α -COPAENE	0,04		
27	34,9	BENZALDEHYDE	0,09		
28	35,7	α -GURJUNENE	0,26		
29	36,1	LINALOOL	0,19		0,19
30	37,4	NEOISOPULEGOL	0,03		
31	38,0	ISOPULEGOL	0,11		
32	38,3	FENCHOL	0,04		
33	38,7	β -CUBEBENE	0,02		
34	39,3	β -CARYOPHYLLENE	1,29		
35	39,8	TERPINENE-4-OL	0,76		
36	40,1	6,9-GUAIADIENE	0,03		
37	40,2	AROMADENDRENE	0,01		
38	40,5	METHYL BENZOATE	0,01		
39	42,4	ALLO-AROMADENDRENE	0,31		
40	42,6	Trans-PINOCARVEOL	0,03		
41	43,0	ETHYL BENZOATE	0,06		
42	43,9	α -HUMULENE	0,20		
43	44,0	δ -TERPINEOL	0,15		
44	44,8	γ -SELINENE	0,03		
45	45,0	NERAL	0,03		0,03

Identification results 2 – NIAOULI BATCH N20100

Peak	RT (min)	Compound	%	Norm (%)	Allergens (%)
46	45,4	TERPENYL ACETATE	1,71		
47	45,6	α-TERPINEOL	4,48		
48	45,8	LEDENE	0,80		
49	47,0	β-SELINENE	0,22		
50	47,3	α-SELINENE	0,18		
51	48,8	δ-CADINENE	0,15		
52	49,1	γ-CADINENE	0,21		
53	50,6	CADINA-1,4-DIENE	0,02		
54	51,1	CAMPHOLENOL	0,02		
55	51,3	α-AMORPHENE	0,02		
56	51,7	SESQUITERPENE Mw=202	0,01		
57	53,5	Trans-CARVEOL	0,01		
58	53,7	CALAMENENE	0,01		
59	54,0	GERANIOL	0,03		0,03
60	54,4	p-CYMENE-8-OL	0,01		
61	54,4	2-HYDROXYCINEOLE	0,01		
62	56,6	Cis-p-MENTHA-1,8-DIEN-2-OL	0,01		
63	59,4	PALUSTROL	0,07		
64	65,2	METHYL THIO BENZOATE	0,03		
65	62,5	CARYOPHYLLENE EPOXIDE	0,15		
66	64,3	NEROLIDOL	0,92		
67	64,8	LEDOL	0,32		
68	65,6	EPOXY-6,7-HUMULENE	0,02		
69	65,9	GLEENOL	0,08		
70	66,5	CUBENOL	0,01		
71	67,1	GLOBULOL	0,04		
72	67,4	VIRIDIFLOROL	3,84		
73	68,9	ROSIFOLIOL	0,02		
74	71,5	EUGENOL	0,03		0,03
75	71,6	T-CADINOL	0,06		
76	74,5	α-EUDESMOL	0,03		
77	74,8	β-EUDESMOL	0,03		
78	77,9	CARYOPHYLLA-3,7-DIEN-6-OL	0,01		
		TOTAL	99,99		8,43