

Sample nature: ESSENTIAL OIL
Botanical species: MELALEUCA QUINQUENERVIA
Reference name: NIAOULI ESSENTIAL OIL, ORGANIC
Batch number: B025419
Origin: MADAGASCAR
Part: LEAF
Pyrenessences reference: AC28-A

Date of receipt: 11/10/2019 **Date analysis:** 24/10/2019
Packaging: Amber flask of 30 ml
Analysis: GC + D + IR + PR

Expiry date: 08/2021

PHYSICALS CHARACTERISTICS

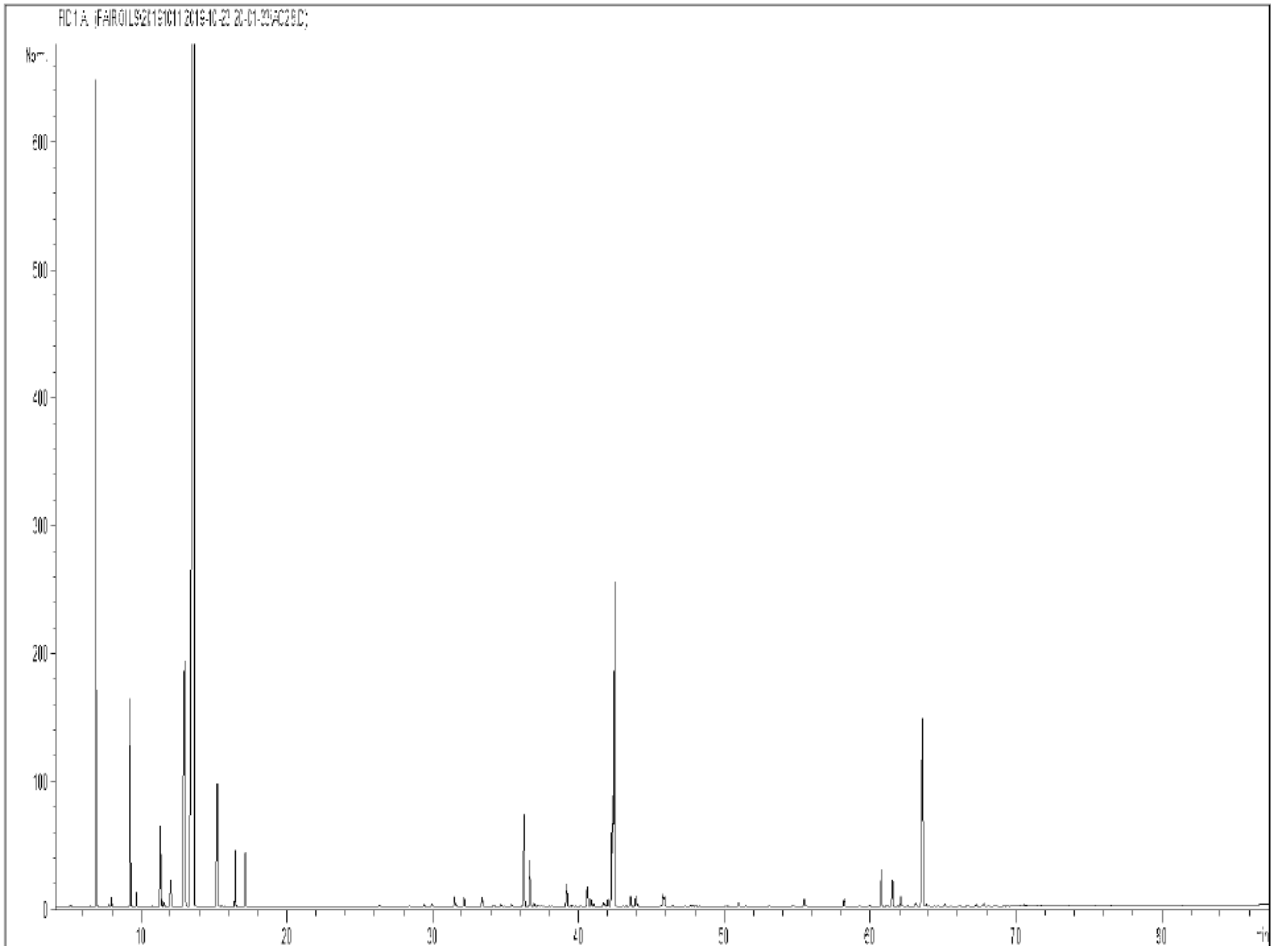
	METHOD	VALUES	NORM	
			Minimum	Maximum
Specific gravity 20 °C	NF ISO 279	0.916	0.900	0.930
Specific gravity 15 °C	NF ISO 279	0.920		
Refractive index 20°C	NF ISO 280	1.4674	1.460	1.480
Optical rotation 20°C	NF ISO 592	- 2.6°	- 4°	+ 1°

GAS CHROMATOGRAPHY norm NF ISO 11024

Analysis conditions:

- GC/MS Agilent 7890 / 5977 – Column : VF WAX (polaire) 60 m * 0.25 mm * 0.25 µm
- GC/FID Agilent 6890 – Column : VF WAX (polaire) 60 m * 0.25 mm * 0.25 µm
- Temperature program : 5 min to 60°C - 2°C/min until 250°C - 15 min to 250°C
- Carrier gas : He (23 psis/MS – 30 psis/FID)
- Sample injection / split : 1 µl of 10 % solution in hexane
- Mass range : 30 to 350 - Oil compounds are identified by a combination of retention times and mass spectra library (our own database and NIST commercial database).
- Percentages are calculated from GC/FID peaks areas without using corrections factors.

Chromatographic profile (GC/FID):



Identification results 1 – NIAOULI ESSENTIAL OIL, ORGANIC - BATCH N° B025419

Pics	RT (min)	Compound name	%	Fairoils SPRL Norm (%)	Allergens (%)
1	5.12	2-METHYL BUTANAL	0.01		
2	5.16	ISOVALERALDEHYDE	0.01		
3	6.51	TRICYCLEN	0.01		
4	6.91	alpha-PINENE	7.83	5 - 15	
5	6.96	alpha-THUYENE	0.21		
6	7.75	alpha-FENCHENE	0.02		
7	7.98	CAMPHENE	0.08		
8	9.25	beta-PINENE	2.28	1 - 4	
9	9.68	SABINENE	0.17		
10	10.74	delta3-CARENE	0.01		
11	11.29	beta-MYRCENE	1.03	≤ 2.0	
12	11.40	alpha-PHELLANDRENE	0.10		
13	11.56	psi-LIMONENE	0.05		
14	12.02	alpha-TERPINENE	0.40	≤ 2.0	
15	12.98	LIMONENE	7.55	5 - 10	7.55
16	13.62	1,8-CINEOLE	54.93	45 - 65	
17	13.68	1.3.8-p-MENTHATRIENE	0.02		
18	15.20	gamma-TERPINENE	1.67	≤ 4.0	
19	15.51	trans-beta-OCIMENE	0.02		
20	16.44	p-CYMENE	0.79	≤ 4.0	
21	17.14	TERPINOLENE	0.79	≤ 2.0	
22	19.38	PINOL	0.01		
23	21.26	ROSE Cis-OXIDE	0.01		
24	26.34	alpha-p-DIMETHYLSTYRENE	0.03		
25	28.41	alpha-CUBEBENE	0.02		
26	29.42	SESQUITERPENE	0.05		
27	29.94	alpha-COPAENE	0.04		
28	31.49	BENZALDEHYDE	0.21	≤ 0.5	
29	32.15	alpha-GURJUNENE	0.16		
30	33.39	LINALOOL	0.14		0.14
31	34.14	NEOISOPULEGOL	0.01		
32	34.70	ISOPULEGOL	0.05		
33	35.43	FENCHOL	0.03		
34	36.27	beta-CARYOPHYLLENE	1.91	≤ 3.0	
35	36.65	TERPINENE-4-OL	0.84	≤ 2.0	
36	36.71	SESQUITERPENE	0.08		
37	36.94	AROMADENDRENE	0.05		
38	37.20	SESQUITERPENE	0.03		
39	37.39	SESQUITERPENE	0.02		
40	37.57	METHYL BENZOATE	0.02		

Identification results 2 – NIAOULI ESSENTIAL OIL, ORGANIC - BATCH N° B025419

Pics	RT (min)	Compound name	%	Fairoils SPRL Norm (%)	Allergens (%)
41	38.14	SESQUITERPENE	0.01		
42	39.18	ALLO-AROMADENDRENE	0.42		
43	39.48	TERPENIC ACETATE	0.02		
44	39.59	Trans-PINOCARVEOL	0.02		
45	39.77	SESQUITERPENE	0.01		
46	40.12	ZONARENE	0.01		
47	40.59	alpha-HUMULENE	0.38		
48	40.84	delta-TERPINEOL	0.14		
49	41.03	gamma-SELINENE	0.03		
50	41.69	NERAL	0.10		0.10
51	41.81	MYRTENYL ACETATE	0.03		
52	42.00	gamma-MUUROLENE	0.15		
53	42.29	TERPENYL ACETATE	2.34	≤ 2.5	
54	42.47	alpha-TERPINEOL	7.10	3 - 8	
55	43.05	EREMOPHILENE	0.01		
56	43.25	CADINADIENE ISOMER	0.02		
57	43.56	beta-SELINENE	0.21		
58	43.93	alpha-SELINENE	0.18		
59	43.96	alpha-MUUROLENE	0.07		
60	45.79	delta-CADINENE	0.26		
61	45.88	gamma-CADINENE	0.16		
62	46.45	CITRONELLOL	0.03		0.03
63	47.26	CADINA-1,4-DIENE	0.02		
64	47.68	MYRTENOL	0.03		
65	47.83	alpha-AMORPHENE	0.02		
66	48.06	SESQUITERPENE Mw=202	0.02		
67	48.30	NEROL	0.01		
68	50.06	CALAMENENE	0.01		
69	50.96	GERANIOL	0.08		0.08
70	51.48	EXO-2-HYDROXYCINEOLE	0.02		
71	54.70	METHYL THIO BENZOATE	0.04		
72	55.49	PALUSTROL	0.14		
73	58.21	CARYOPHYLLENE EPOXIDE	0.15		
74	59.95	epi-GLOBULOL	0.02		
75	60.77	LEDOL	0.72		
76	61.17	EPOXY-6,7-HUMULENE	0.03		
77	61.52	NEROLIDOL	0.46	≤ 4.0	
78	62.08	GLEENOL	0.18		
79	62.15	Epi-CUBENOL	0.01		
80	62.56	CUBENOL	0.02		

Identification results 3 – NIAOULI ESSENTIAL OIL, ORGANIC - BATCH N° B025419

Pics	RT (min)	Compound name	%	Fairoils SPRL Norm (%)	Allergens (%)
81	63.12	GLOBULOL	0.06		
82	63.59	VIRIDIFLOROL	4.15	1.7 – 9.0	
83	63.83	GUAIOL	0.05		
84	65.10	ROSIFOLIOL	0.03		
85	66.16	EUDESMA-7-EN-4-OL	0.01		
86	66.66	SESQUITERPENIC EPOXIDE	0.01		
87	67.26	EUGENOL	0.04		0.04
88	67.73	gamma-EUDES MOL	0.01		
89	67.80	T-CADINOL	0.06		
90	68.60	alpha-MUUROLOL	0.01		
91	69.16	delta-CADINOL	0.02		
92	70.26	alpha-EUDES MOL	0.02		
93	70.61	beta-EUDES MOL	0.03		
94	70.72	alpha-CADINOL	0.02		
95	71.50	EUDESMA-7(11)-EN-4-OL	0.01		
96	71.69	CITRONELLIC ACID	0.02		
97	73.67	CARYOPHYLLA-3,6-DIEN-5-alpha-OL	0.02		
98	75.48	SESQUITERPENIC EPOXIDE	0.01		
99	76.56	FARNESOL	0.01		0.01
		TOTAL	100.00		7.96

Date: 28/11/2019