

Date:  
11/07/2019**N**

Sample nature: ESSENTIAL OIL  
 Botanical species: MELALEUCA ALTERNIFOLIA  
 Reference name: TEA TREE ESSENTIAL OIL  
 Batch number: B023719  
 Origin: KENYA  
 Part: LEAF  
 Pyrenessences reference: Y047

Date of receipt: 25/07/2019 Date analysis: 04/07/2019  
 Packaging: Amber flask of 100 ml  
 Analysis

Expiry date: 06/2021

## PHYSICALS CHARACTERISTICS

	METHOD	VALUES	NORM	
			Minimum	Maximum
Specific gravity 20 °c	NF ISO 279	0,896	0,885	0,906
Specific gravity 15 °c	NF ISO 279	0,900		
Refractive index 20°C	NF ISO 280	1,477 7	1,475	1,482
Optical rotation 20°C	NF ISO 592	+ 9,35 °		+ 12 0
Miscibility in ethanol 85 %	NF ISO 875	0,7 volume	< 2 volumes of alcohol 85 %	
Flash point : SETAFLASH	FD ISO/TR 11018	57,6 °c	59 °c	

\* Interns Methods

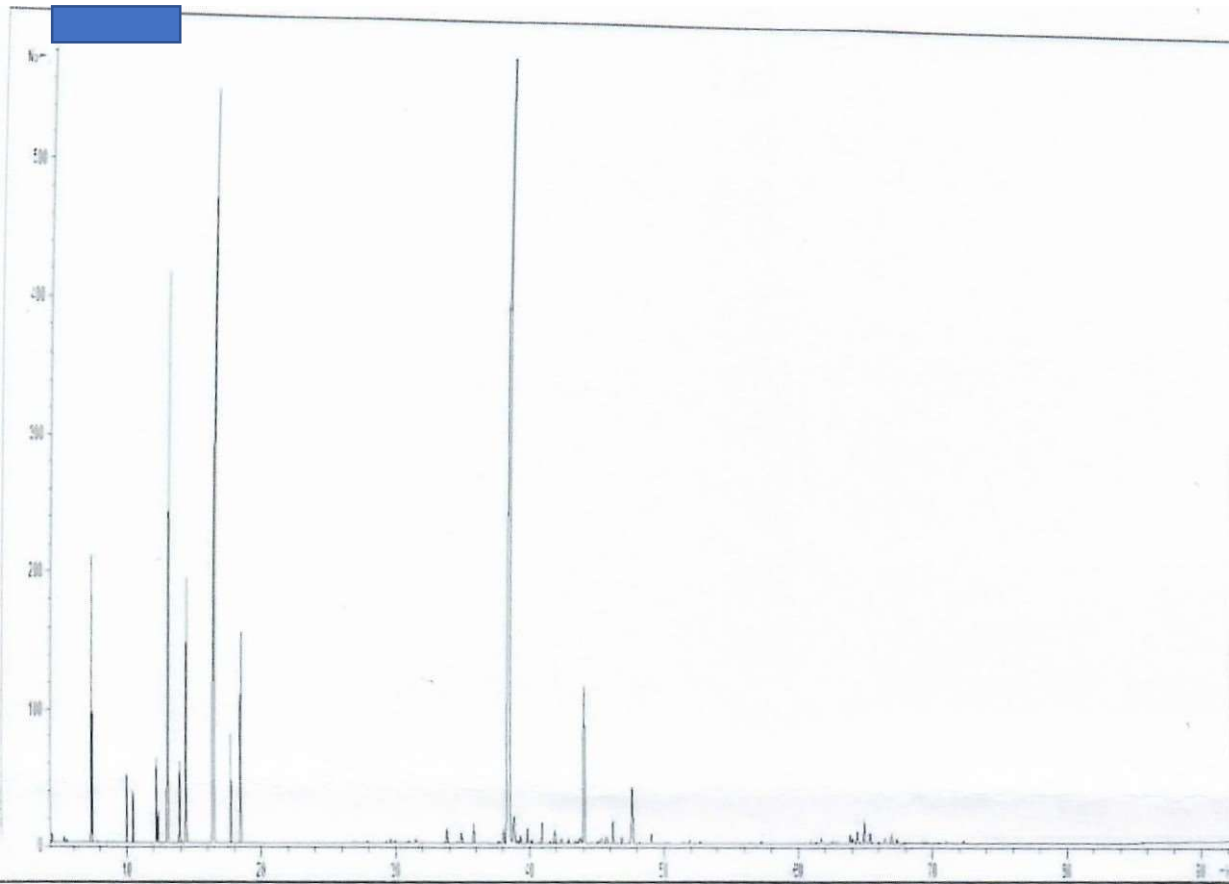
## GAS CHROMATOGRAPHY norm NF ISO 11024

Analysis conditions:

GC/MS Agilent 7890 / 5977 - Column : VF WAX (polaire) 60 m \* 0.25 mm \* 0.25µm  
 GC/FID Agilent 6890 - Column : VF WAX (polaire) 60 m \* 0.25 mm \* 0.25µm

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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  
(our own database) and mass spectra library NKS 75 000 records,  
Percentages are calculated from GC/FID peaks areas without using corrections factors.

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Chromatographic profile (GC/FID):

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Pic;	RT (min)	Compound name			Allergen'
2	4.43 s	ACETONE			
3	35 7.36	SUTANAL, 2-METHYL alpha-PINENE	0.06 0.02		
4		alpha-THUYENE	2.64	1-4	
5		CAMPHENE			
6	9.97	beta-PINENE	0.01		
	0.45	SABINENE	0.79		
9	2.19	beta-MYRCENE	0.62	< 3.5	
10	2.32 2.49	alpha-PHELLANDRENE PSI- LIMONENE	1.13 0.40		
11	13.08	alpha-TERPINENE	0.01		
12	83.92 14.42	LIMONENE 1,8-CENEOL	10.43 1.14	6-12	
	4.50	beta-PHELLANORENE	2.55	0.5 < 10	1.14
15	6.51	gamma-TERPINENE	1.74		
16					
17	*6.71 17.72	Trans-beta-CIMENE P- CYMENE	21.10 0.02	14-28	
18	18.48	TERPINOLENE	1.63	0.5-8	
20	27.00 27.89	MENTHATR)ENE ISOMER	3.59 0.02	1.5-5	
21	29.37	alpha-p-DiMETHYLSTYRENE a;pha- CUBEBENE	0.04		
22	29.67	Trans-THUYANOL			
23	30.00	SESQUITERPENE	0.08		
24	30.77	BICYCLOLEMENE	0.06		
25	31.03	SESQUITERPENE	0.0		
	53	alpha-COPAENE	0.05		
27	31.66	COMPOUND	0.02		
28	33.66	SESQUITERPENE			
29	33.85	alpha-GiRJUNENE	0.02		
	34.62	beta-MALIENE	0.30 0.03		
31					
32	34.93 35.84	Cis-THUYANOL Trans-p-MENTH-2-EN-T-OL			

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33	36.25	SESQUITERPENE			
34	36.68	TERPINENE-1-OL	0.04 0.03		
35	37.10	SESOUFERPENE	0.01		
36	37.72	beta-ELEMENE	0.05		
37	38.05	beta-CARYOPHYLLENE	0.33		
38	38.54	TERPINENE4-OL	37.17	35.48	
39	38.84	AROMADENORENE	0.98	0.2 - 3	
ao	39.08	ELINA-3,7-OIENE	0.05		
42	30.30 39.86	SESQUITERPENE + SESQUITERPENE	0.12		
43	40.16	CAOINA-3.5-DIENE	0.27 0.08		
44	40.58	ESQIJ(TERPENE	0.02		
	40.93	ALLO-AROMAOENORENE	0.42		
46	41.54	SESQUITERPENE	0.05		
47	41.87	ONARENE	0.28		
	42.36	alpha-HUMULENE	0.09		
	42.52	beta-FARNESENE	0.02		
50	42.79	gamma-SELINENE	0.02		
	42.91	trans-PERITOL	0.07		0.07
	43.41	GENERAL			

N<sup>o</sup>

## Identification results 2: TEA TREE ESSENTIAL OIL BATCH B023719

Pics	RT (min)	Compound name		Norm	Allergens
53	43.57				
	43.72	mma-MLJUROLENE CALARENE	003 0 10		
	43.83	SESQUITERPENE	0.11		
56 57	44.ca 44 20	alpha-TERP\NEOL LEONE	2.85	2-5	
58	44	GURJUNENE ISOMER	1.00 0 03	0.1 -3	
	45.07 45 33	GERMACRENE beta- SEL'NENE			
61	45 74	a;pna-SELINENE	0 12 0 10		
62	45.30	a; ha*1UUROLENE	013		
	4621 46 45	EiCYCLOGERMACRENE SESOUFERPENE	046		
	46 37	Trans-PIPERITOL	D 02		
66 67	47 84 47 70	gamma-CAOINENE deltacADINENE	0 30		
	48 14	SESOUFERPENE Mw=202	1.11 0.02	0.2 -3	
	48 49	SESQUITERPENE Mw=202	0.01		
71	49.07 so 04	NEROL	0 20		
72	50 35	AROMATIC COMPOUND	0.03 002		
73	51.43 91	SELINENE ISOMER CALAMENENE	0.03		
	52 72	p-CYMENE-8-OL	0 08		
76	56 47	apha-CALACORENE	0.05 0 02		
77	56 BC 5726	COMPOUND Mw=22ü PALUSTROL	OCl		
79	60.94	SESQUITERPENOL	OOS		
80	6'.34	SESQUITERPENOL	OOS 003		
81 82	6 t .84 fit.74	METHYLEOGENCIL EpVGLOBULOL	0 04		
83	62.57	LEÜOL	0.11 0 07		

	62.88	SESOUERPENOL Mw=222	0.03		
85	63.89	GLEENOL	0.18		
	64.05	épÆUBENOL			
87	64.41	CUBENOL			
	64.53	GLOBULOL	0.48		
	65.36	VIRIOIFLOROL			
	65.52	Cts-1 2-DtHYOROXY -ME-NTH-2-ENE	0.24		
91	66.47	10-épl-qamma-3JOESMOL	0.03		
			0.12		
92	66.95	ROSIFCILIOL	0.21		
93	67.35	SPATHULENOL	0.11		
	68.65	Trans-i 2-01HYDROXY-p-MENTH-2-ENE	0.02		
95	69.51	ACETOXY KETONE COMPOUND	0.03		
	67	T-CADINOL	0.01		
97	70.4B	α;pha-MUUROLOL	0.03		
	71.03	δelt.aCAOINOL	0.05		
	71.60	SESQUITERPENOL	0.02		
100	72.32	beta-NOOTKATOL	0.06		
101	73.59	EUDESMA-7-EN-4-OL	0.02		
102	89.86	ρ H YTOL	0.01		
		TOTAL	100.00		1.20

Quality approved by:

Dr. Christine Döring

Date: 16/09/2019

Quality Manager

