

Certificate of Analysis

Analysed essential oil : Citronella (Ceylan type)

Analysis date : June, 14th 2013

Batch : 163QB302

Shelf life : December 2015

❖ General description

Essential oil	Citronella (Ceylan type)	Origin	Sri Lanka
Latin name	<i>Cymbopogon nardus</i>		

❖ Organoleptic characteristics

Appearance	Clear and mobile liquid
Colour	Pale yellow
Odour	Characteristic

❖ Physico-chemical characteristics

	Results (at 20°C)	Technical specifications				
Specific gravity	0.902	0.891	<	d	<	0.910
Refractive index	1.4836	1.4790	<	RI	<	1.4900
Optical rotation	-18.20°	-25°	<	$[\alpha]^{20}_d$	<	-12°

❖ Volatile elucidation

GC : Perkin Elmer – Clarus 500

Column : Elite - 1, 30 m, Ø 0.25 mm, 0.25 µm df

Injection : split

Detector : FID

Carrier gas : H₂

⇒ See Chromatogram : non-polar column

Date : 2014-06-02

Software Version : 6.2.0.0:B27
Sample Name : Citronnelle Ceylan
Instrument Name : CLARUS 500
Rack/Vial : 0/3
Sample Amount : 1.000000
Cycle : 3

Date : 14/06/2013 11:04:48
Data Acquisition Time : 12/06/2013 21:04:57
Channel : A
Operator : Davenne
Dilution Factor : 1.000000

Result File :
Sequence File : C:\Sequences\CPG\2013\130612.seq

Rapport d'analyse

colonne apolaire

Pic #	Component Name	TR [min]	Area [%]
1		7.72	0.01
2		8.07	0.01
3		8.90	0.02
4	tricyclene	9.72	1.26
5	thujene <alpha>	9.89	0.03
6	pinene <alpha>	10.15	2.32
7	camphene	10.65	8.42
8		10.79	0.13
9	sabinene	11.59	0.19
10	pinene <beta>	11.74	0.07
11	myrcene	12.35	0.89
12	phellandrene <alpha>	12.82	0.19
13		12.88	0.14
14	terpinene <alpha>	13.43	0.04
15	cymene <p>	13.55	0.07
16		13.71	0.02
17	limonene + phellandrene <beta>	13.97	8.26
18	ocimene <(Z)-beta>	14.30	2.21
19		14.58	0.08
20	ocimene <(E)-beta>	14.78	1.10
21	terpinene <gamma>	15.23	0.07
22		15.56	0.06
23		16.31	0.02
24	terpinolene	16.55	0.75
25		16.70	0.03
26	linalool	16.84	0.55
27		17.40	0.02
28		17.66	0.03
29		17.78	0.09
30		18.13	0.06
31		18.33	0.05
32		18.51	0.06
33	isopulegol	18.78	0.51
34	citronellal	18.99	3.51
35		19.28	0.18
36		19.40	0.84
37		19.54	0.24
38	borneol	19.66	5.03
39		19.76	0.25
40		20.15	0.25
41	terpinen-4-ol	20.23	0.46
42		20.57	0.03
43	terpineol <alpha>	20.73	1.06
44		21.03	0.24
45		21.40	0.12
46		21.56	0.05
47		21.91	0.03
48	citronellol + nerol	22.56	3.30
49	neral	22.73	0.35
50		22.97	0.13
51		23.15	0.10
52	geraniol	23.71	23.24
53	geranial	23.99	0.57
54		24.64	0.03
55		24.92	0.05
56	bornyl acetate	25.04	0.51
57		25.54	0.02
58		25.70	0.09

14/06/2013 11:04:48 Result:

Pic #	Component Name	TR [min]	Area [%]
59		25.99	0.05
60		26.51	0.06
61		27.33	0.02
62		27.64	0.01
63	terpinyl acetate <alpha>	27.77	0.40
64	citronellyl acetate	27.97	0.77
65		28.33	0.06
66		28.58	0.03
67	geranyl acetate	29.08	5.06
68	methyl eugenol	29.48	0.48
69		29.74	0.20
70	elemene <beta>	30.00	0.78
71	caryophyllene <(E)>	31.11	1.49
72		31.58	0.22
73	bergamotene <alpha-trans>	31.86	0.51
74		31.99	0.05
75		32.26	0.04
76	humulene <alpha>	32.42	0.21
77		32.55	0.15
78		32.75	0.04
79		32.96	0.02
80	methyl isoeugenol <(E)>	33.20	7.23
81	germacrene D	33.47	1.53
82		33.67	0.15
83		33.83	0.09
84	farnesene <(Z,E)-alpha>	33.99	4.28
85	muurolene <alpha>	34.25	0.29
86		34.40	0.15
87	farnesene <(E,E)-alpha>	34.51	0.18
88	cadinene <gamma>	34.70	0.38
89		34.86	0.05
90	cadinene <delta>	35.09	1.03
91		35.41	0.10
92		35.64	0.04
93	elemol	35.78	1.13
94	geranyl butanoate	36.15	1.47
95		36.87	0.07
96	caryophyllene oxide	37.02	0.22
97		37.26	0.01
98		37.89	0.14
99		38.26	0.05
100		38.45	0.02
101	eudesmol <gamma>	38.88	0.28
102		38.95	0.27
103		39.19	0.35
104		39.32	0.08
105	eudesmol <beta>	39.44	0.30
106	eudesmol <alpha>	39.63	0.60
107		40.07	0.02
108		40.32	0.02
109		40.64	0.03
110		41.87	0.02
111		42.06	0.03
112		42.53	0.02
113	geranyl caproate	43.17	0.18
114		46.48	0.03
115		46.73	0.03
116		51.68	0.02
117		62.99	0.01
118		76.66	0.04
			100.00

Chromatogram

Sample Name : Citronnelle Ceylan Sample #: 163QB302 Page 1 of 1
FileName : C:\Data\Colonne Apolaire\Huiles Essentielles\Citronnelle\Citronnelle Ceylan\2013\citronnelle 130612.raw
Date : 14/06/2013 11:04:52
Method : citronnelle ceylan.mth Time of Injection: 12/06/2013 21:04:57
Start Time : 0.00 min End Time : 82.00 min Low Point : -47.22 mV High Point : 993.88 mV
Plot Offset: -47.22 mV Plot Scale: 1041.1 mV

