

# Certificate of Analysis

Analysed essential oil : **Curcuma**

Analysis date : June, 19<sup>th</sup> 2014

Batch : 169GA402

Shelf life : July 2016

## ❖ General description

Essential oil	Curcuma	Origin	Madagascar
Latin name	<i>Curcuma longa</i>		

## ❖ Organoleptic characteristics

Appearance	Clear and mobile liquid
Colour	Yellow
Odour	Characteristic

## ❖ Physico-chemical characteristics

	Results (at 20°C)	Technical specifications				
Specific gravity	0.929	0.900	<	d	<	0.950
Refractive index	1.5068	1.4850	<	RI	<	1.5250
Optical rotation	-2.80°	-38°	<	$[\alpha]^{20}_D$	<	+18°

## ❖ 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 : H<sub>2</sub>

⇒ See Chromatogram : non-polar column

Date : 2014-11-27

Software Version : 6.2.0.0.0:B27  
Sample Name : Curcuma  
Instrument Name : CLARUS 500  
Rack/Vial : 0/4  
Sample Amount : 1.000000  
Cycle : 4

Date : 19/06/2014 16:06:38  
Data Acquisition Time : 18/06/2014 22:58:19  
Channel : A  
Operator : Davenne  
Dilution Factor : 1.000000

Result File :  
Sequence File : C:\Sequences\CPG\2014\140618.seq

## Rapport d'analyse

colonne apolaire

Pic #	Component Name	TR [min]	Area [%]
1		4.86	0.02
2	pinene <alpha>	10.15	0.25
3	myrcene	12.35	0.19
4	phellandrene <alpha>	12.89	5.60
5	carene <delta-3>	13.22	0.12
6	terpinene <alpha>	13.42	0.08
7	cymene <p>	13.55	1.25
8	limonene + cineole <1.8>	13.89	1.69
9	terpinene <gamma>	15.22	0.21
10	terpinolene	16.56	0.33
11		20.24	0.05
12		20.73	0.05
13		21.15	0.07
14		25.20	0.06
15		25.71	0.05
16		28.40	0.13
17		29.56	0.04
18		30.39	0.04
19		30.65	0.05
20		30.86	0.02
21	caryophyllene <(E)>	31.11	0.46
22		32.06	0.47
23		32.30	0.05
24	humulene <alpha>	32.43	0.10
25		32.55	0.15
26		32.69	0.06
27		32.86	0.09
28	curcumene <ar>	33.39	2.41
29	zingiberene <alpha>	34.06	2.57
30		34.47	0.11
31	bisabolene <beta>	34.64	0.70
32	sesquiphellandrene <beta>	35.13	2.81
33		35.42	0.21
34		35.69	0.07
35		36.04	0.41
36		36.26	0.21
37		36.51	0.19
38	turmerol <ar>	36.70	1.27
39		36.95	0.20
40		37.16	0.34
41		37.32	0.29
42	turmerone <ar-dihydro>	37.47	1.09
43		37.64	0.57
44		37.77	0.36
45	atlantol <beta>	37.96	0.90
46		38.30	0.49
47		38.43	0.41
48		38.63	0.16
49		38.77	0.56
50		38.90	0.93
51		39.09	0.47
52		39.36	0.38
53	turmerone <ar>	39.71	26.14
54	turmerone <beta>	40.07	24.08
55		40.37	0.61
56		40.74	0.05
57		40.90	0.36
58	turmerone <alpha>	41.15	14.71

19/06/2014 16:06:38 Result:

Pic #	Component Name	TR [min]	Area [%]
59		41.55	0.14
60		41.75	0.10
61		42.03	0.06
62		42.37	0.04
63		42.59	0.54
64		42.96	0.54
65	nuciferol <(E)>	43.23	0.86
66	atlantone <(E)-alpha>	43.65	1.12
67		44.12	0.22
68		44.81	0.35
69		45.91	0.04
70		46.81	0.07
71		48.27	0.05
72		49.92	0.12
			100.00

# Chromatogram

Sample Name : Curcuma      Sample #: 169GA402      Page 1 of 1  
FileName : C:\Data\Colonne Apolaire\Huiles Essentielles\Curcuma\2014\curcuma 140618.raw  
Date : 19/06/2014 16:06:41      Time of Injection: 18/06/2014 22:58:19  
Method : curcuma.mth      Start Time : 0.00 min      End Time : 82.00 min      Low Point : -47.24 mV      High Point : 993.88 mV  
Plot Offset: -47.24 mV      Plot Scale: 1041.1 mV

