

# Certificate of Analysis

Analysed essential oil : Cardamom

Analysis date : June, 13<sup>th</sup> 2017

Batch : 152AF703

Shelf life : June 2020

## ❖ General description

Essential oil	Cardamom	Origin	Guatemala
Latin name	<i>Elettaria cardamomum</i>		

## ❖ Organoleptic characteristics

Appearance	Clear and mobile liquid
Colour	Very pale yellow
Odour	Characteristic

## ❖ Physico-chemical characteristics

	Results (at 20°C)	Technical specifications				
Specific gravity	0,922	0.919	<	d	<	0.936
Refractive index	1,4608	1.4600	<	IR	<	1.4680
Optical rotation	+27,55°	+22°	<	$[\alpha]^{20}_d$	<	+41°

## ❖ 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 : 2017-06-13

Software Version : 6.3.2.0646  
Sample Name : HE Cardamome 152AF703  
Instrument Name : CLARUS 500  
Rack/Vial : 0/9  
Sample Amount : 1.000000  
Cycle : 9

Date : 6/13/2017 11:47:05 AM  
Data Acquisition Time : 6/13/2017 6:17:12 AM  
Channel : B  
Operator : Clemence  
Dilution Factor : 1.000000

Result File :  
Sequence File : C:\Sequences\CPG\2017\170612.seq

## Rapport d'analyse

colonne polaire Elite WAX

pic #	Nom composant	TR [min]	Aire [%]
1	pinene <alpha> + thujene <alph	3.09	1.89
2	camphene	3.72	0.03
3	pinene <beta>	4.46	0.39
4	sabinene	4.78	4.59
5	myrcene	5.86	2.23
6	terpinene<alpha>	6.14	0.12
7	limonene	6.66	2.60
8	cineole<1.8>	6.92	30.38
9	terpinene <gamma>	7.85	0.04
10		8.02	0.26
11		8.33	0.08
12	cymene<p>	8.73	0.10
13	terpinolene	9.17	0.14
14		9.40	0.14
15		10.20	0.09
16		13.61	0.04
17	sabinene hydrate<cis>	15.63	1.08
18		16.26	0.08
19		16.91	0.04
20		17.90	0.04
21		18.37	0.08
22	sabinene hydrate<trans>	18.59	0.28
23	linalool	18.97	3.32
24		19.11	0.03
25	linalool acetate	19.26	5.40
26		20.10	0.07
27	terpinen-4-ol	20.44	0.64
28	neral	22.21	0.15
29		22.78	0.03
30		22.99	0.09
31		23.11	0.31
32		23.66	0.04
33	terpineol<alpha>+terpinyl acet	23.96	40.92
34		24.14	0.08
35	selinene<beta>	24.38	0.36
36	selinene<alpha>	24.56	0.13
37	geranial	24.93	0.39
38		25.36	0.04
39		25.84	0.21
40		26.29	0.60
41		27.63	0.03
42		27.94	0.09
43		28.17	0.13
44	geraniol	29.31	1.01
45	nerolidol <(E)>	35.65	0.89
46		40.32	0.06
47		41.09	0.04
48		41.67	0.06
49		42.07	0.04
50		44.60	0.11
51		53.39	0.04

100.00



# Chromatogram

Sample Name : HE Cardamome 152AF703      Sample # : 152AF703      Page 1 of 1  
 FileName : C:\Data\Colonne Polaire\Huiles Essentielles\Cardamome\2017\cardamome 170612.raw  
 Date : 6/13/2017 11:47:07 AM  
 Method : cardamome.mth      Time of Injection : 6/13/2017 6:17:12 AM  
 Start Time : 0.00 min      End Time : 82.00 min      Low Point : -47.13 mV      High Point : 993.88 mV  
 Plot Offset : -47.13 mV      Plot Scale : 1041.0 mV

