



PLANT THERAPY

100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: N40100

ESSENTIAL OIL: NUTMEG
BOTANICAL NAME: MYRISTICA FRAGRANS
ORIGIN: SRI LANKA

KEY CONSTITUENTS IN THIS BATCH OF NUTMEG OIL	%
α -PINENE	19.4
SABINENE	17.2
β -PINENE	13.9
MYRISTICIN	11.8
TERPINEN-4-OL	5.5
γ -TERPINENE	5.0
LIMONENE	3.8
α -TERPINENE	3.3
β -PHELLANDRENE	2.3
β -MYRCENE	2.2
α -THUJENE	1.8
TERPINOLENE	1.7
SAFROLE	1.6
Δ^3 -CARENE	0.9
METHYLEUGENOL	0.07

Comments from Robert Tisserand: Very good odor quality, and in compliance with the ISO standard for Indonesian type nutmeg.

CUSTOMER :

PLANT THERAPY
126 Locust Street South
Twin Falls, ID 83 301
USA

Sample nature: ESSENTIAL OIL
Botanical species: MYRISTICA FRAGRANS
Reference name: NUTMEG
Batch number: N40100
Origin: SRI LANKA
Part: FRUIT
Pyrenessences reference: C225
Date of reception: 12/08/2014
Date analysis: 12/15/2014
Packaging: Amber flask of 5 ml – ambient temperature
Analysis: Classic

Validated report by :

Daniel DANTIN



GAS CHROMATOGRAPHY norm NF ISO 11024

Analysis conditions :

CPG 7890 / MS 5975 – Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm

CPG 6890 FID - Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm

Temperature program : 6 mn to 60 °C -2 °C/mn→250 °C - 20mn to 250 °C

Carrier gas He : 23 psis/MS – 30 psis/FID

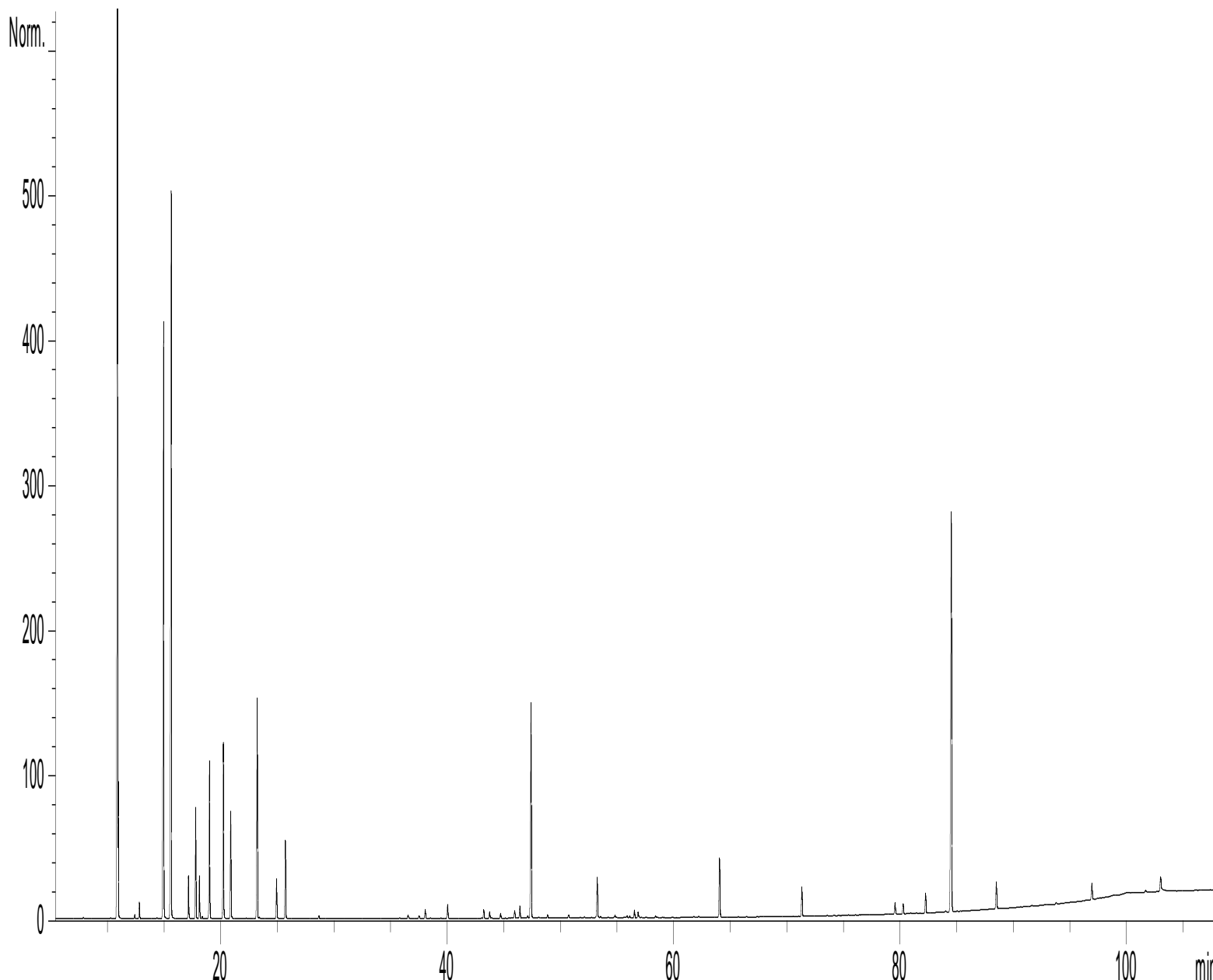
Sample injection / split : 1 µl of 10 % solution in hexane,

Mass range : 30 to 350, Oil components 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,

Chromatographic profile (GC/FID)

FID1 A, (Z:\PLANTHER\MF14C225.D)



Identification results 1: NUTMEG SRI LANKA BATCH N40100

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
1	7,9	ETHANOL	0,02		
2	10,3	TRICYCLENE	0,02		
3	10,9	α-PINENE	19,37	15 - 28	
4	11,0	α-THUYENE	1,84		
5	12,4	α-FENCHENE	0,07		
6	12,8	CAMPHENE	0,31		
7	14,3	TERPENE ISOMER	0,02		
8	14,9	β-PINENE	13,87	13 - 18	
9	15,6	SABINENE	17,24	14 - 29	
10	17,1	Δ3-CARENE	0,90	0,5 - 2,0	
11	17,8	β-MYRCENE	2,20		
12	18,1	α-PHELLANDRENE	0,85		
13	18,4	ψ-LIMONENE	0,04		
14	18,9	1,4-CINEOLE	0,03		
15	19,0	α-TERPINENE	3,30		
16	20,2	LIMONENE	3,77	2,0 - 7,0	3,77
17	20,8	1,8-CINEOLE	0,08		
18	21,0	β-PHELLANDRENE	2,30		
19	22,3	Cis-β-OCIMENE	0,01		
20	23,2	γ-TERPINENE	4,95	2,0 - 6,0	
21	23,4	Trans-β-OCIMENE	0,03		
22	24,9	p-CYMENE	0,90		
23	25,7	TERPINOLENE	1,73		
24	28,7	ADAMANTANOL	0,06		
25	33,5	MENTHATRIENE COMPOUND	0,01		
26	35,8	MENTHATRIENE COMPOUND	0,02		
27	36,5	α,p-DIMETHYLSTYRENE	0,08		
28	37,5	α-CUBEBENE	0,07		
29	38,1	Trans-THUYANOL	0,21		
30	39,5	CYCLOSATIVENE	0,01		
31	40,0	α-COPAENE	0,36		
32	42,2	CAMPHOR	0,01		
33	43,0	β1-CUBEBENE	0,01		
34	43,2	LINALOOL	0,18		0,18
35	43,8	Cis-THUYANOL	0,15		
36	44,0	LINALYL ACETATE	0,01		
37	44,7	Trans-p-MENTH-2-EN-1-OL	0,12		
38	45,2	CYCLOHEXENYL CYCLOHEXANONE	0,01		
39	45,5	PINOCARVONE	0,01		
40	46,0	BORNYL ACETATE + FENCHOL	0,15		
41	46,1	α,trans-BERGAMOTENE	0,05		
42	46,4	p-PENTYL ANISOLE	0,29		
43	47,1	β-CARYOPHYLLENE	0,06		
44	47,4	TERPINENE-4-OL	5,45	2,0 - 6,0	
45	48,1	TERPINENE-4-YL ACETATE	0,03		

Identification results 2: NUTMEG SRI LANKA BATCH N40100

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
46	48,9	Cis-p-MENTH-2-EN-1-OL	0,07		
47	50,7	CITRONELLYL ACETATE	0,08		
48	50,8	Trans-PINOCARVEOL	0,01		
49	51,0	E-β-FARNESENE	0,01		
50	52,1	Cis-PIPERITOL	0,02		
51	52,8	γ-MUUROLENE	0,01		
52	53,2	α-TERPINEOL	0,89		
53	53,3	TERPENYL ACETATE	0,15		
54	53,6	BORNEOL	0,03		
55	54,2	GERMACRENE D	0,02		
56	54,8	SESQUITERPENE	0,01		
57	54,9	β-BISABOLENE	0,05		
58	55,0	α-MUUROLENE	0,01		
59	55,7	PIPERITONE	0,01		
60	55,8	BICYCLOGERMACRENE	0,01		
61	55,9	trans-PIPERITOL	0,03		
62	56,1	α-FARNESENE	0,04		
63	56,5	GERANYL ACETATE	0,18		
64	56,9	δ-CADINENE	0,13		
65	57,0	CITRONELLOL	0,02		0,02
66	57,2	γ-CADINENE	0,01		
67	57,6	β-SESQUIPELLANDRENE	0,01		
68	58,4	TERPENIC EPOXIDE Mw=152	0,04		
69	58,6	CADINA-1,4-DIENE	0,02		
70	61,5	GERANIOL	0,01		0,01
71	61,7	CALAMENENE	0,02		
72	62,2	p-CYMENE-8-OL	0,03		
73	64,1	SAFROLE	1,60	1,0 – 2,5	
74	71,3	E-METHYLEUGENOL	0,74		
75	74,2	COMPOUND Mw=238	0,02		
76	74,8	ELEMOL	0,01		
77	75,3	GUAIOL	0,01		
78	79,6	EUGENOL	0,30		0,30
79	80,3	Trans-METHYLISOEUGENOL	0,27		
80	81,7	CARVACROL	0,01		
81	82,3	ELEMICINE	0,51		
82	84,0	ISOEUGENOL ISOMER	0,03		0,03
83	84,5	MYRISTICINE	11,75	5,0 – 12,0	
84	85,0	3-METHYL-DECANOIC ACID	0,02		
85	85,3	PHENOL, 2-METHOXY ACETATE	0,01		
86	88,5	ISOEUGENOL	0,76		0,76
87	91,6	AROMATIC COMPOUND Mw=236	0,02		
88	93,8	LAURIC ACID	0,03		
89	97,0	METHOXYEUGENOL Mw=194	0,46		
90	98,5	VANILLIN	0,01		
91	103,0	MYRISTIC ACID	0,44		
		TOTAL	99,95		4,60