PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: P10100

ESSENTIAL OIL: PALMAROSA
BOTANICAL NAME: CYMBOPOGON MARTINI
ORIGIN: INDIA

KEY CONSTITIUENTS IN THIS BATCH OF PALMAROSA OIL	%
GERANIOL	79.0
GERANYL ACETATE	9.0
LINALOOL	2.6
β-CARYOPHYLLENE	2.0
Trans-β-OCIMENE	1.5
FARNESOL	1.0
GERANYL CAPROATE	0.9
β-MYRCENE	0.6
Cis-β-OCIMENE	0.5
GERANIAL	0.4
NERAL	0.1
LIMONENE + ISOAMYL ALCOHOL	0.1

Comments from Robert Tisserand: Exceptionally good odor. Not in compliance with the ISO for two constituents, but they are out of range by such small margins that I am not concerned. An extra 0.1% of beta-myrcene and geranyl caproate is not a sign of adulteration.

CUSTOMER :

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

Sample nature:	ESSENTIAL OIL
Botanical species:	CYMBOPOGON MARTINI
Reference name:	PALMAROSA
Batch number:	P10100
Origin:	INDIA
Part:	HERB
Pyrenessences reference:	C275
Date of reception:	12/15/2014
Date analysis:	12/22/2014
Packaging:	Amber flask of 4 ml – ambient temperature
Analysis:	Classic

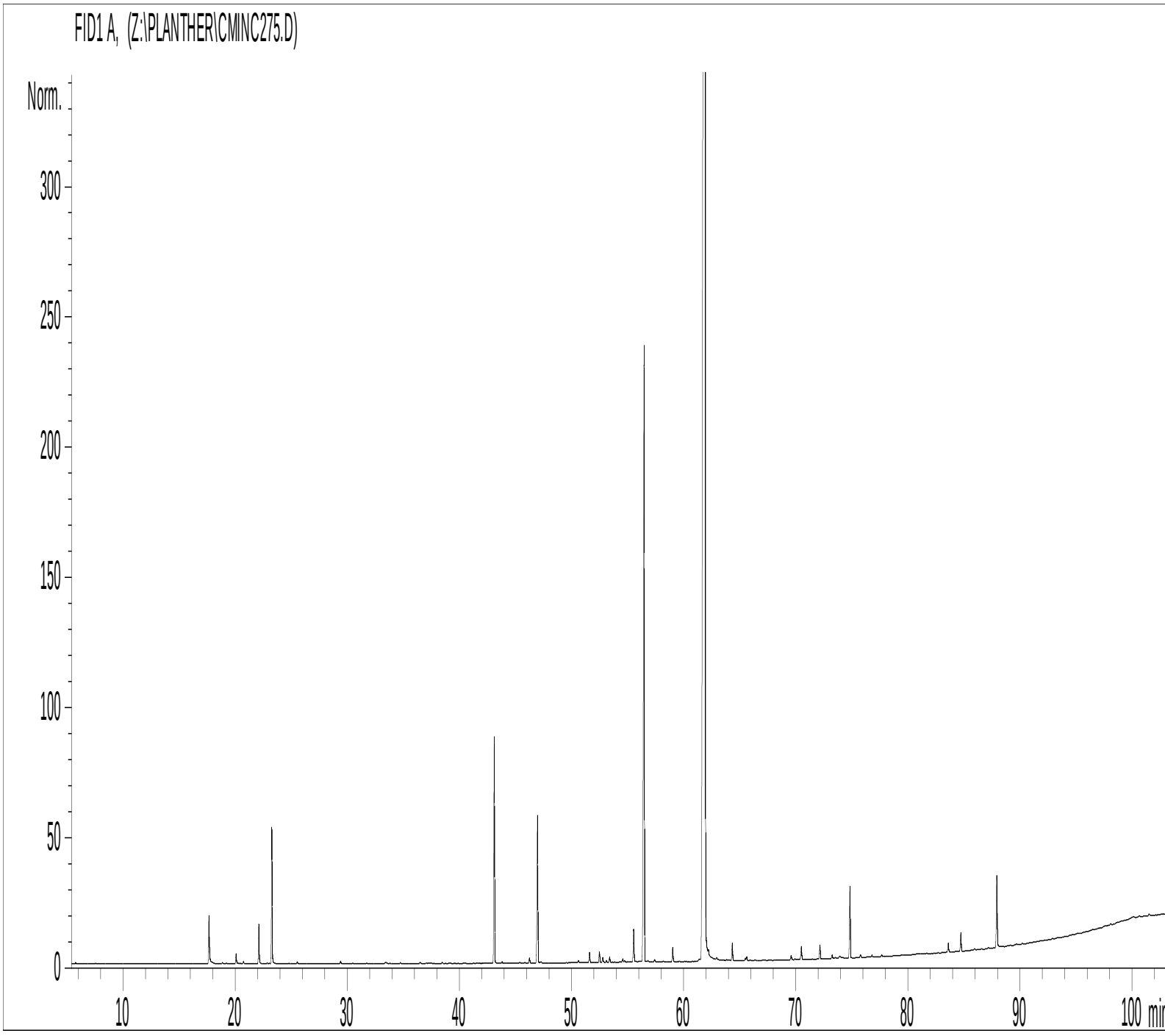
Validated report by : **Daniel DANTIN**

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 – 10 mn 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)



Identification results 1 : PALMAROSA INDIA BATCH P10100

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
1	17,6	**β-MYRCENE**	**0,62**	**0 – 0,5**	
2	17,9	α-PHELLANDRENE	0,03		
3	18,9	2-HEPTANONE + α-TERPINENE	0,01		
4	19,2	HEPTANAL	0,01		
5	20,1	**LIMONENE** + ISOAMYL ALCOHOL	**0,12**	**0 – 1,3**	0,12
6	20,7	Cis-DIHYDROCARVONE	0,03		
7	22,1	**Cis-β-OCIMENE**	**0,45**	**0,2 – 0,6**	
8	22,8	Trans-ARBUSCULONE	0,01		
9	23,0	TERPENE ISOMER	0,01		
10	23,3	**Trans-β-OCIMENE**	**1,48**	**0,5 – 3,0**	
11	25,5	TERPINOLENE	0,02		
12	29,4	6-METHYL-5-HEPTEN-2-ONE	0,03		
13	33,4	ALLO-OCIMENE	0,03		
14	36,5	LINALOOL cis-OXIDE	0,02		
15	38,5	LINALOOL trans-OXIDE	0,01		
16	43,1	**LINALOOL**	**2,62**	**1,0 – 5,5**	2,62
17	43,8	1-OCTANOL	0,01		
18	43,9	LINALYL ACETATE	0,01		
19	45,4	ISOCARYOPHYLLENE	0,01		
20	45,8	SESQUITERPENE	0,01		
21	46,2	β-ELEMENE	0,07		
22	47,0	**β-CARYOPHYLLENE**	**1,99**	**0,7 – 2,5**	
23	47,2	LIMONENE EPOXIDE ISOMER	0,02		
24	50,6	E-β-FARNESENE	0,03		
25	51,6	α-HUMULENE	0,14		
26	52,5	**NERAL**	**0,14**	**Nd – 0,5**	0,14
27	52,8	GERANYL NERATE	0,07		
28	53,1	α-TERPINEOL	0,03		
29	53,4	GERANYL FORMIATE	0,07		
30	54,3	NERYL ACETATE	0,01		
31	54,6	VALENCENE	0,04		
32	54,7	α-SELINENE	0,02		
33	55,5	**GERANIAL**	**0,43**	**0,2 – 0,6**	0,43
34	55,7	PIPERITONE	0,01		
35	56,5	**GERANYL ACETATE**	**8,97**	**7,0 – 16,0**	
36	56,7	CITRONELLOL	0,02		0,02
37	57,4	7-épi-α-SELINENE	0,03		
38	58,2	γ-GERANIOL	0,01		
39	59,0	NEROL	0,19		
40	61,9	**GERANIOL**	**78,95**	**72,0 – 86,0**	78,95
41	62,2	ALIPHATIC ESTER	0,03		
42	62,9	E-GERANYL ACETONE	0,03		
43	64,3	GERANYL BUTYRATE	0,20		
44	65,5	PHYTADIENE ISOMER	0,03		
45	65,6	GERANYL METHYLBUTYRATE	0,04		
46	69,6	TERPENIC ALCOHOL	0,06		

Identification results 2 : PALMAROSA INDIA BATCH P10100

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
47	69,9	ISOCARYOPHYLLENE EPOXYDE	0,01		
48	70,5	CARYOPHYLLENE EPOXYDE	0,18		
49	72,1	NEROLIDOL	0,17		
50	73,2	CAPRYLIC ACID	0,05		
51	74,8	**GERANYL CAPROATE**	**0,91**	**0,4 – 0,8**	
52	75,8	2,3-EPOXY GERANYL ACETATE	0,04		
53	76,8	PENTADECANONE TRIMETHYL	0,02		
54	77,7	TERPENIC DIOL	0,02		
55	81,7	VINYL QUAJACOL	0,01		
56	83,6	FARNESYL ACETATE	0,12		
57	84,7	GERANYL CAPRYLATE	0,24		
58	85,9	CARYOPHYLLA-3,7-DIEN-6-OL	0,02		
59	87,9	**FARNESOL**	**0,99**	**0,2 – 1,5**	0,99
60	101,5	ALIPHATIC ALCOHOL	0,03		
		TOTAL	**99,92**		**83,27**