

GC/MS BATCH NUMBER: C90105

ESSENTIAL OIL: CHAMOMILE ROMAN
BOTANICAL NAME: ANTHEMIS NOBILIS
ORIGIN: UK

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CHAMOMILE ROMAN OIL	%
METHYLAMYL ANGELATE	12.9
ISOBUTYL ANGELATE	12.0
METHALLYL ANGELATE	10.5
ISOAMYL ANGELATE	8.1
Trans-PINOCARVEOL	7.8
α -PINENE	7.6
2-METHYLBUTYL ANGELATE	5.4
PINOCARVONE	3.4
METHACRYLIC ESTER	3.0
2-METHYLBUTYL METHACRYLATE	2.5
ISOBUTYL ISOBUTYRATE	1.7
HEXYL ISOBUTYRATE	1.5
ISOBUTYL METHACRYLATE	1.5
METHYLPENTYL METHACRYLATE	1.4
ISOAMYL ISOBUTYRATE	1.4
ALLYL METHACRYLATE	1.1
GERMACRENE D	1.0

Comments from Robert Tisserand:
This is an English Roman Chamomile oil with a fruity, hay-like odor. Neither English nor USA Roman Chamomile oils conform to the French AFNOR standards which are shown on the analysis in the Norm (%) column.

CUSTOMER :

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

Sample nature: ESSENTIAL OIL
Botanical species: ANTHEMIS NOBILIS
Reference name: CHAMOMILE ROMAN UK
Batch number: C90105
Origin: UK
Part: FLOWER
Pyrenessences reference: D170
Date of reception: 03/17/2015
Date analysis: 04/07/2015
Packaging: Blue flask of 10 ml – ambient temperature
Analysis: Classic

Validated report by :

Daniel DANTIN



GAS CHROMATOGRAPHY norm NF ISO 11024

Analysis conditions :

CPG 6890 / MS 5973 AGILENT – Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm

CPG 6890 FID AGILENT - 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

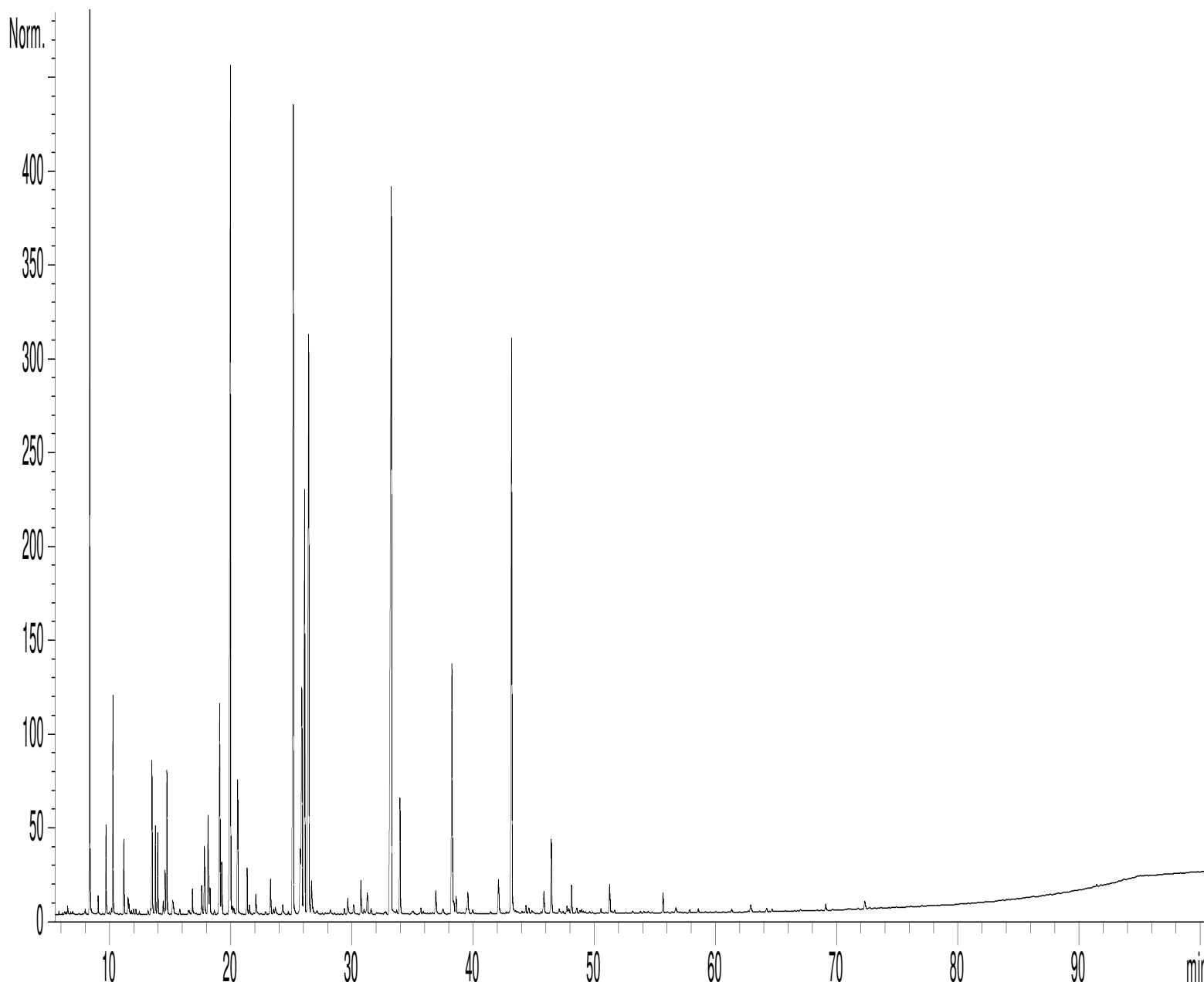
Sample injection / split : 1 µl of 10 % solution in hexane,

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\AN14D170.D)



Identification results 1 : CHAMOMILE ROMAN UK BATCH N° C90105

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
1	5,2	OCTANE METHYL	0,01		
2	5,3	FURAN, 2-METHYL	0,05		
3	5,8	FURAN, 3-METHYL	0,02		
4	6,1	2-BUTANONE	0,01		
5	6,3	BUTANAL, 2-METHYL	0,01		
6	6,4	ISOVALERALDEHYDE	0,03		
7	6,5	ETHANOL	0,02		
8	6,6	2-BUTANONE,3-METHYL	0,07		
9	6,8	FURAN, 2-ETHYL	0,02		
10	7,0	ETHYL ISOBUTYRATE	0,03		
11	8,0	METHYL 2-METHYLBUTYRATE	0,01		
12	8,1	ISOBUTYL ACETATE	0,05		
13	8,5	α-PINENE	7,63	1,0 – 5,0	
14	9,1	ETHYL 2-METHYLBUTYRATE	0,15		
15	9,7	CAMPHENE	0,76		
16	10,0	ISOBUTANOL	0,02		
17	10,2	HEXANAL	0,05		
18	10,3	ISOBUTYL ISOBUTYRATE	1,66	2,0 – 9,0	
19	11,2	β-PINENE	0,67		
20	11,5	ISOAMYL ACETATE	0,17		
21	11,6	SABINENE	0,11		
22	11,8	PINADIENE	0,04		
23	12,0	ISOBUTYL METHACRYLATE	0,05		
24	12,2	PROPYL, 2-METHYLBUTYRATE	0,05		
25	12,5	BUTYL ISOBUTYRATE	0,03		
26	13,2	β-MYRCENE	0,04		
27	13,4	ETHYL ANGELATE	0,05		
28	13,5	ISOBUTYL METHACRYLATE	1,48	0,5 – 3,0	
29	13,8	ISOBUTYL 2-METHYLBUTYRATE	0,81		
30	14,0	ALLYL ETHYLBUTYRATE	0,76		
31	14,5	ISOBUTYL ISOVALERATE	0,14		
32	14,6	AMYL ISOBUTYRATE	0,42		
33	14,8	ISOAMYL ISOBUTYRATE	1,36	2,5 – 5,0	
34	15,0	ISOAMYL ALCOHOL	0,10		
35	15,2	LIMONENE	0,16		0,16
36	15,8	1,8-CINEOLE	0,06		
37	16,5	BUTYL METHACRYLATE	0,04		
38	16,6	FURAN, 2-AMYL	0,05		
39	16,8	3-METHYLPENTYL ACETATE	0,26		
40	17,2	PROPYL ISOBUTYRATE	0,01		
41	17,6	PRENYL ACETATE	0,32		
42	17,9	ISOPROPYL ANGELATE + trans-β-OCIMENE	0,75		
43	18,2	ALLYL METHACRYLATE	1,08		
44	18,3	DIMETHYL HEPTANONE ISOMER Mw=142	0,31		
45	18,7	PRENYLIC ESTER	0,05		

Identification results 2 : CHAMOMILE ROMAN UK BATCH N° C90105

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
46	19,0	p-CYMENE	0,05		
47	19,1	2-METHYLBUTYL METHACRYLATE	2,53	0,5 - 1,5	
48	19,4	2-METHYLBUTYL 2-METHYLBUTYRATE	0,61		
49	20,0	ISOBUTYL ANGELATE	11,98	30 - 45	
50	20,2	ISOAMYL ISOVALERATE	0,08		
51	20,3	BUTYL CAPROATE	0,07		
52	20,6	HEXYL ISOBUTYRATE	1,49		
53	21,4	PRENYL BUTYRATE	0,50		
54	22,1	METHACRYLATE ESTER	0,29		
55	22,9	HEXYL BUTYRATE	0,03		
56	23,3	BUTYL ANGELATE	0,41		
57	23,6	METHACRYLIC ESTER	0,07		
58	23,7	ALIPHATIC ESTER	0,12		
59	24,3	ISOBUTYL TIGLATE	0,15		
60	24,8	ALLYL ESTER	0,04		
61	25,2	METHALLYL ANGELATE	10,52	6 - 10	
62	25,7	3-HEXEN-1-OL	0,78		
63	25,9	METHACRYLIC ESTER	2,97		
64	26,2	2-METHYLBUTYL ANGELATE	5,41	3 - 7	
65	26,6	ISOAMYL ANGELATE	8,05	12 - 22	
66	26,7	METHACRYLIC ESTER	0,47		
67	27,9	ANGELIC ESTER	0,04		
68	28,2	ALIPHATIC ESTER	0,10		
69	28,5	ANGELIC ESTER	0,02		
70	28,6	SILPHIPERFOL-7-ENE	0,01		
71	29,4	ALIPHATIC ESTER	0,07		
72	29,7	ALIPHATIC ESTER	0,21		
73	30,1	METHALLYLIC ESTER	0,14		
74	30,7	METHALLYL ANGELATE ISOMER	0,42		
75	31,1	PRENYLIC ESTER	0,07		
76	31,3	METHALLYL ISOBUTYRATE	0,34		
77	31,6	PENTYL METHACRYLATE	0,08		
78	32,2	CYCLOSATIVENE	0,04		
79	33,2	METHYLAMYL ANGELATE C11	12,91		
80	33,6	ALIPHATIC ALCOHOL	0,04		
81	34,0	METHYLPENTYL METHACRYLATE	1,37		
82	35,1	BENZALDEHYDE	0,08		
83	35,8	HEXYL ANGELATE	0,08		
84	36,0	LINALOOL	0,03		0,03
85	37,0	ISOPINOCAMPHONE	0,35		
86	37,6	ISOBUTYRIC ACID + ALIPHATIC ESTER	0,10		
87	38,3	PINOCARVONE	3,43	1,3 - 6,0	
88	38,7	HEXENYL ESTER	0,22		
89	39,0	ALIPHATIC ESTER	0,01		
90	39,5	SESQUITERPENIC COMPONENT	0,06		

Identification results 3 : CHAMOMILE ROMAN UK BATCH N° C90105

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
91	39,6	β-CARYOPHYLLENE	0,32		
92	40,0	TERPINENE-4-OL	0,05		
93	41,5	METHYL OCTANOL	0,04		
94	42,1	MYRTENAL	0,53		
95	42,8	TERPENIC ACETATE	0,02		
96	43,3	Trans-PINOCARVEOL	7,78	2 - 7	
97	43,5	E-β-FARNESENE	0,04		
98	44,1	ALIPHATIC ALCOHOL	0,03		
99	44,6	Trans-VERBENOL	0,12		
100	44,9	SESQUITERPENE	0,06		
101	45,7	γ-CURCUMENE	0,03		
102	45,8	BORNEOL	0,35		
103	46,5	GERMACRENE D	1,03		
104	47,2	β-SELINENE	0,09		
105	47,5	FURANIC COMPOUND	0,04		
106	47,8	ALIPHATIC COMPONENT	0,11		
107	48,2	α-FARNESENE	0,35		
108	48,6	SESQUITERPENE Mw=202	0,08		
109	49,0	SESQUITERPENE Mw=204	0,05		
110	49,6	β-SESQUIPELLANDRENE	0,03		
111	50,6	METHYLENEBUTANOATE 3-HYDROXY-ISOBUTYL	0,05		
112	51,3	MYRTENOL	0,41		
113	53,2	2,4-DECADIENAL	0,03		
114	54,6	p-CYMENE-8-OL	0,03		
115	55,7	2-HYDROXY-2-METHYLBUT-3-ENYL ANGELATE	0,25		
116	56,7	ISOPENTYL-3-HYDROXY-2-METHYLENEBUTENOAT,	0,09		
117	57,9	TERPENIC ESTER	0,04		
118	58,7	MYRTENIC ESTER	0,06		
119	61,3	MYRTENIC ESTER	0,04		
120	63,0	PYRANIC COMPOUND	0,12		
121	64,2	SESQUITERPENOL Mw=222	0,06		
122	67,0	ALIPHATIC ESTER	0,02		
123	69,1	PENTADECANONE TRIMETHYL	0,09		
124	72,3	DEHYDROVIRIDIFLOROL	0,13		
125	91,4	PHYTOL	0,03		
		TOTAL	99,41		0,19