

GC/MS BATCH NUMBER: S10100

ESSENTIAL OIL: SAGE
BOTANICAL NAME: SALVIA OFFICINALIS
ORIGIN: UKRAINE

KEY CONSTITUENTS PRESENT IN THIS BATCH OF SAGE OIL	%
α -THUJONE + OCTYL ACETATE	24.8
CAMPHOR	18.3
1,8-CINEOLE	9.4
β -THUYONE	6.5
α -HUMULENE	6.1
CAMPHENE	5.9
β -CARYOPHYLLENE	5.7
α -PINENE	5.5
BORNEOL	3.8
β -PINENE	2.4
LIMONENE	1.8
BORNYL ACETATE + ϵ -CADINENE	1.7
γ -TERPINENE	1.6
p-CYMENE	1.1

Comments from Robert Tisserand: A classic dry-green Sage oil, with all 10 key constituents conforming to the ISO standard.

CUSTOMER :

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

Sample nature: ESSENTIAL OIL
Botanical species: SALVIA OFFICINALIS
Reference name: SAGE
Batch number: S10100
Origin: UKRAINE
Part: FLOWERING TOP
Pyre^ossences reference: F071
Date of reception: 10/02/2015
Date analysis: 10/15/2015
Packaging: Brown 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 5890 FID - Column : INNOWAX 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

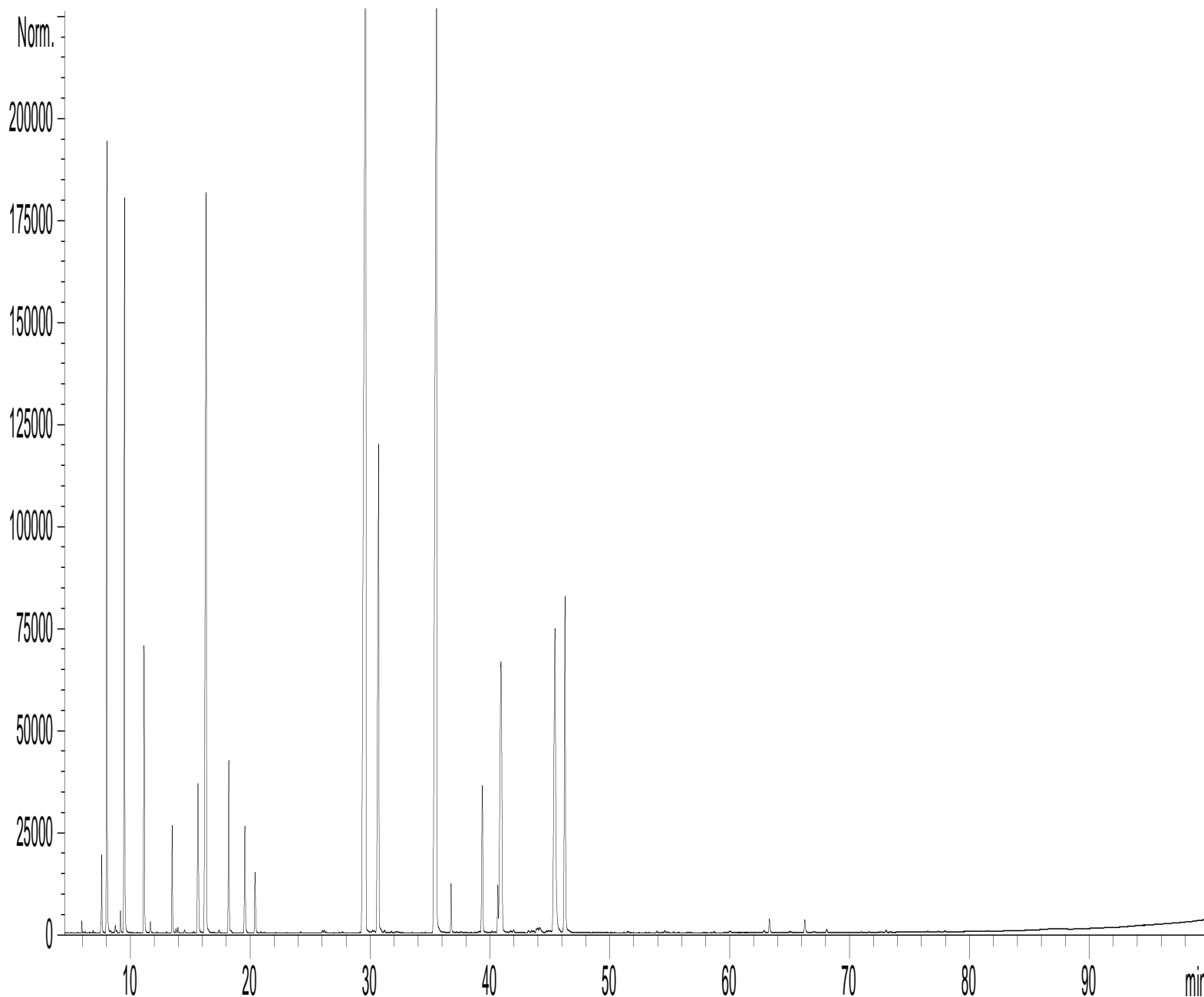
Sample injection / split : 1 µl of 10 % solution in hexane,

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, (Y:\PLANTHER\ISO01\F071.D)



Identification results 1 : SAGE UKRAINE BATCH N° S10100

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
1	5,6	ETHANOL	0,01		
2	6,0	Z-SALVENE	0,06		
3	6,1	E-SALVENE	0,01		
4	6,9	NORBORNENE, 2-METHYL-	0,02		
5	7,0	TERPENE ISOMER	0,01		
6	7,6	TERPENE ISOMER	0,05		
7	7,6	TRICYCLENE	0,51		
8	8,0	α-PINENE	5,54	1 - 6,5	
9	8,7	β-FENCHENE	0,07		
10	8,9	CAMPHANE Mw=138	0,02		
11	9,2	α-FENCHENE	0,18		
12	9,5	CAMPHENE	5,88	1,5 - 7	
13	11,1	β-PINENE	2,38		
14	11,7	SABINENE	0,10		
15	12,2	PINADIENE	0,01		
16	13,0	Δ ³ -CARENE	0,01		
17	13,5	β-MYRCENE	0,74		
18	13,8	α-PHELLANDRENE	0,04		
19	14,0	ψ-LIMONENE	0,05		
20	14,5	α-TERPINENE	0,03		
21	15,1	2,3-DEHYDRO-1,8-CINEOLE	0,01		
22	15,3	ISOAMYL ALCOHOL	0,02		
23	15,6	LIMONENE	1,79	0,5 - 3	1,79
24	16,3	1,8-CINEOLE	9,38	5,5 - 13	
25	16,5	MENTHATRIENE ISOMER	0,04		
26	17,4	Cis-β-OCIMENE	0,03		
27	18,2	γ-TERPINENE	1,56		
28	18,3	Trans-β-OCIMENE	0,03		
29	19,6	p-CYMENE	1,09		
30	20,4	TERPINOLENE	0,57		
31	20,9	TERPINOLENE ISOMER	0,01		
32	24,2	1-HEXANOL	0,01		
33	26,0	TETRAMETHYL CYCLOPENTENOL	0,02		
34	26,2	3-HEXEN-1-OL	0,02		
35	26,3	PINENE EPOXIDE	0,01		
36	27,7	FENCHONE	0,02		
37	29,1	TERPENIC COMPONENT	0,01		
38	29,6	α-THUYONE + OCTYL ACETATE	24,78	18 - 43	
39	30,2	α,p-DIMETHYLSTYRENE	0,04		
40	30,4	1-OCTEN-3-OL	0,02		
41	30,7	β-THUYONE	6,54	3 - 8,5	
42	30,9	ACETALDEHYDE DIMETHYLCYCLOHEXYLIDENE	0,06		
43	31,2	CYCLOPENTENONE COMPONENT	0,03		
44	31,8	Trans-THUYANOL	0,02		
45	32,2	EPOXY-4,8-TERPINOLENE	0,02		
46	32,3	FENCHYL ACETATE	0,02		

Identification results 2 : SAGE UKRAINE BATCH N° S10100

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
47	33,5	Cis-3-HEXENYL ISOVALERATE	0,01		
48	35,5	CAMPHOR	18,32	4,5 - 24,5	
49	35,7	SESQUITERPENE	0,09		
50	36,8	LINALOOL	0,41	< 1	0,41
51	37,2	Cis-THUYANOL	0,01		
52	37,6	LINALYL ACETATE	0,02	< 1	
53	37,9	PINOCARVONE	0,01		
54	38,1	Trans-p-MENTH-2-EN-1-OL	0,01		
55	39,1	BORNYL FORMIATE	0,01		
56	39,4	BORNYL ACETATE + ε-CADINENE	1,68	< 2,5	
57	39,6	ISOBORNYL ACETATE	0,01		
58	40,2	SESQUITERPENE	0,02		
59	40,4	CAMPHENE HYDRATE	0,02		
60	40,5	β-CUBEBENE	0,01		
61	40,7	TERPINENE-4-OL	0,40		
62	40,9	β-CARYOPHYLLENE	5,68		
63	41,4	TERPINEN-4-YL ACETATE	0,01		
64	41,7	AROMADENDRENE	0,04		
65	42,0	ENDO-ISOPINOCAMPHONE	0,05		
66	42,3	Cis-p-2,8-MENTHADIEN-1-OL	0,01		
67	42,4	SESQUITERPENE	0,01		
68	42,5	MYRTENAL	0,01		
69	43,2	ETHYL CAPROATE	0,04		
70	43,5	CADINA-3,5-DIENE	0,04		
71	43,7	SESQUITERPENE	0,03		
72	43,9	Trans-SABINYL ACETATE	0,04		
73	44,0	ALLO-AROMADENDRENE	0,06		
74	44,2	Trans-PINOCARVEOL	0,13		
75	44,7	CADINENE ISOMER	0,03		
76	44,9	δ-TERPINEOL	0,04		
77	45,1	EREMOPHILENE	0,03		
78	45,4	α-HUMULENE	6,13	< 12	
79	45,8	CARVOTANAKETONE	0,05		
80	46,2	α-TERPINEOL	0,06		
81	46,3	BORNEOL	3,82		
82	46,5	SESQUITERPENE	0,05		
83	47,5	VERBENONE	0,01		
84	51,5	MYRTENOL	0,03		
85	53,0	PHENYL ETHYL ESTER	0,01		
86	53,9	AROMATIC COMPONENT	0,01		
87	54,6	CALAMENENE	0,03		
88	54,8	p-CYMENE-8-OL	0,01		
89	55,3	ETHYL ESTER	0,01		
90	56,5	ISOAMYL LAURATE	0,01		

Identification results 3 : SAGE UKRAINE BATCH N° S10100

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
91	57,8	PHENYL ETHYL ALCOHOL	0,01		
92	58,7	ALIPHATIC COMPONENT	0,01		
93	60,1	HUMULENE EPOXIDE	0,02		
94	62,9	ISOCARYOPHYLLENE OXIDE	0,03		
95	63,3	CARYOPHYLLENE OXIDE	0,16		
96	63,6	PHENOLIC COMPONENT	0,01		
97	65,0	HUMULOL	0,01		
98	65,1	γ-NONANOLACTONE	0,01		
99	66,3	HUMULENE, 6,7-EPOXY-	0,16		
100	67,0	ELEMOL	0,01		
101	67,1	COMPONENT Mw=168	0,01		
102	67,5	CUMINOL	0,01		
103	68,1	VIRIDIFLOROL	0,04		
104	70,2	SPATHULENOL	0,02		
105	71,0	EUGENOL	0,01		0,01
106	71,6	THYMOL	0,01		
107	73,0	CARVACROL	0,02		
108	76,5	ETHYL PALMITATE	0,01		
109	77,4	GERMACRA-1,4-DIEN-7-OL	0,01		
110	78,0	SESQUITERPENONE Mw=218	0,01		
		TOTAL	99,96		2,21