

GC/MS BATCH NUMBER: S10101

ESSENTIAL OIL: SAGE (DALMATIAN)
BOTANICAL NAME: *SALVIA OFFICINALIS*
ORIGIN: ALBANIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF SAGE OIL	%
α -THUJONE	25.0
CAMPHOR	19.4
1,8-CINEOLE	9.7
β -THUJONE	6.7
α -HUMULENE	6.1
CAMPHENE	6.0
β -CARYOPHYLLENE	5.3
α -PINENE	5.2
BORNEOL	3.9
β -PINENE	2.4
LIMONENE	1.7
γ -TERPINENE	1.6
BORNYL ACETATE	1.6

Comments from Robert Tisserand: Smells like a very good Dalmatian sage oil, and all 10 key constituents conform to the ISO standard.

Date : February 26, 2016

SAMPLE IDENTIFICATION

Internal code : 16B22-PTH7-1-LC

Customer identification : Sage Dalmatian - Albania - S1010146R

Type : Essential oil

Source : *Salvia officinalis*

Customer : Plant Therapy

ANALYSIS

Method : PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Analyst : Alexis St-Gelais, M. Sc., chimiste

Analysis date : 2016-02-26

Checked and approved by :

Alexis St-Gelais, M. Sc., chimiste 2013-174

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IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
<i>cis</i> -Salvene	1.75	842	0.06	0.06	845	0.63	Normonoterpene
<i>trans</i> -Salvene	1.84	850	0.01	0.01	857	0.67	Normonoterpene
<i>cis</i> -Hex-3-en-1-ol	2.02	865	0.02	0.03	1337	5.01	Aliphatic alcohol
Tricyclene	2.63	912	0.54	0.54	920	0.85	Monoterpene
α -Thujene	2.72	918	0.36	0.32	959	0.97	Monoterpene
α -Pinene	2.82	925	5.15	5.14	949	0.94	Monoterpene
Camphene	3.09*	941	6.13	5.96	1015	1.19	Monoterpene
α -Fenchene	3.09*	941	[6.13]	0.20	1006	1.12	Monoterpene
Thuja-2,4(10)-diene	3.19	948	0.01	0.12	1067	1.62*	Monoterpene
Sabinene	3.49	967	0.11	[0.12]	1067	1.62*	Monoterpene
β -Pinene	3.54	970	2.41	2.42	1051	1.49	Monoterpene
Myrcene	3.84	989	0.88	0.88	1121	2.13	Monoterpene
Pseudolimonene	4.03	1001	0.01	0.01	1116	2.07	Monoterpene
α -Phellandrene	4.08*	1004	0.07	0.07	1113	2.05	Monoterpene
Δ^3 -Carene	4.08*	1004	[0.07]	tr	1099	1.88	Monoterpene
α -Terpinene	4.26	1014	0.04	0.04	1126	2.20	Monoterpene
1,8-Cineole	4.56*	1031	12.23	9.67	1156	2.55	Monoterp. ether
Limonene	4.56*	1031	[12.23]	1.74	1146	2.43	Monoterpene
para-Cymene	4.56*	1031	[12.23]	0.86	1214	3.26	Monoterpene
<i>cis</i> - β -Ocimene	4.69	1038	0.12	1.63	1195	3.00*	Monoterpene
<i>trans</i> - β -Ocimene	4.86	1048	0.02	0.02	1207	3.17	Monoterpene
γ -Terpinene	5.03	1058	1.58	[1.63]	1195	3.00*	Monoterpene
Terpinolene	5.48	1083	0.52	0.51	1227	3.45	Monoterpene
para-Cymenene	5.71	1097	0.01	0.01	1386	5.73	Monoterpene
α -Thujone	6.04*	1111	25.49	24.99	1360	5.35	Monoterp. ketone
Linalool	6.04*	1111	[25.49]	0.42	1507	7.96	Monoterp. alcohol
β -Thujone	6.21	1119	6.73	6.52	1377	5.58	Monoterp. ketone
Camphor	6.83	1147	19.38	19.50	1433	6.56*	Monoterp. ketone
Camphene hydrate	7.05	1157	0.04	0.04	1527	8.57	Monoterp. alcohol
Borneol	7.57	1180	3.91	4.12	1629	11.93*	Monoterp. alcohol
Terpinen-4-ol	7.65	1184	0.56	0.43	1535	8.82	Monoterp. alcohol
Cryptone	8.02	1199	tr	0.01	1578	10.09	Monoterp. ketone
Myrtenal	8.06	1200	0.02	0.02	1542	9.03	Monoterp. aldehyde
α -Terpineol	8.22	1204	0.04	0.06	1633	12.10	Monoterp. alcohol
Verbenone	8.43	1210	0.03	0.02	1612	11.19	Monoterp. ketone
Bornyl acetate	10.92	1277	1.56	1.54	1511	8.09	Monoterp. ester
α -Copaene	14.89	1352	0.08	[19.50]	1433	6.56*	Sesquiterpene
β -Caryophyllene	17.52	1397	5.25	5.24	1524	8.47	Sesquiterpene
α -Humulene	20.08	1431	6.07	5.84	1588	10.39	Sesquiterpene
<i>trans</i> - β -Farnesene	21.45	1449	0.06	[4.12]	1629	11.93*	Sesquiterpene
Caryophyllene oxide	30.23	1557	0.12	0.10	1848	24.16	Sesquiterp. ether

Humulene epoxide II	32.64	1586	0.11	0.09	1900	27.80	Sesquiterp. ether
Total identified			99.73%	99.18%			

*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

Note: no correction factor was applied

OTHER DATA

Physical aspect : Clear liquid

Refractive index : 1.4648 ± 0.0003 (20 °C)

CONCLUSION

No adulterant, contaminant or diluent were detected using this method.



