

Analysis Sage, White Essential Oil

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Date : May 24, 2017

SAMPLE IDENTIFICATION

Internal code : 17E19-FSE14-1-DM

Customer identification : White Sage - Lot #3882

Type : Essential oil

Source : *Salvia apiana*

Customer : Flowers Shining Everywhere Inc.



ANALYSIS



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

+ **Identifications** double-checked by GC-MS

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-05-24



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.	
cis-Hex-3-en-1-ol	2.49	866	0.01	0.01	1326	5.38	Aliphatic alcohol
Tricyclene	3.22	917	0.04	0.05	912	0.98	Monoterpene
α -Thujene	3.31	922	0.29	0.40	948	1.12	Monoterpene
α -Pinene	3.43	929	7.51	7.20	941	1.09	Monoterpene
Camphene	3.70*	946	2.24	2.10	997	1.35	Monoterpene
α -Fenchene	3.70*	946	[2.24]	0.05	987	1.29	Monoterpene
Thuja-2,4(10)-diene	3.79*	951	0.01	0.06	1050	1.84*	Monoterpene
Sabinene	4.13	971	0.04	[0.06]	1050	1.84*	Monoterpene
β -Pinene	4.21	976	7.14	6.89	1037	1.70	Monoterpene
Myrcene	4.47*	992	2.08	1.99	1112	2.40	Monoterpene
Octen-3-ol	4.47*	992	[2.08]	0.07	1401	6.56*	Aliphatic alcohol
α -Phellandrene	4.75*	1007	2.56	0.35	1106	2.31	Monoterpene
δ -Carene	4.75*	1007	[2.56]	2.18	1078	2.14	Monoterpene
α -Terpinene	4.93	1017	0.42	0.48	1119	2.48	Monoterpene
1,8-Cineole	5.30*	1037	58.02	58.17	1150	2.89*	Monoterp. ether
Limonene	5.30*	1037	[58.02]	[58.17]	1150	2.89*	Monoterpene
para-Cymene	5.30*	1037	58.02	0.56	1203	3.57	Monoterpene
cis- β -Ocimene	5.34	1040	0.72	0.74	1181	3.30	Monoterpene
trans- β -Ocimene	5.52	1049	0.27	0.24	1196	3.49	Monoterpene
γ -Terpinene	5.70	1060	0.65	0.61	1183	3.32	Monoterpene
cis-Sabinene hydrate	6.01	1076	0.02	[0.07]	1401	6.56*	Monoterp. alcohol
Isoterpinolene	6.10	1081	0.04	0.04	1213	3.72*	Monoterpene
Terpinolene	6.17	1085	0.30	0.29	1218	3.78	Monoterpene
para-Cymenene	6.37	1096	0.02	0.01	1361	5.92*	Monoterpene
Linalool	6.64	1107	0.16	0.15	1484	8.42*	Monoterp. alcohol
α -Thujone	6.83	1114	0.02	[0.01]	1361	5.92*	Monoterp. ketone
cis-para-Menth-2-en-1-ol	7.17	1127	0.02	[0.15]	1484	8.42*	Monoterp. alcohol
α -Campholenal	7.22	1128	0.01				Monoterp. aldehyde
Camphor	7.77	1148	12.50	12.57	1422	6.93*	Monoterp. ketone
δ -Terpineol	8.49*	1175	0.32	0.07	1600	12.24	Monoterp. alcohol
Borneol	8.49*	1175	[0.32]	0.16	1610	12.59	Monoterp. alcohol
Terpinen-4-ol	8.69	1182	0.31	0.35	1523	9.40*	Monoterp. alcohol
α -Terpineol	9.31	1203	0.16	0.19	1617	12.88	Monoterp. alcohol
Hexyl isovalerate	11.09	1242	0.01	0.01	1412	6.72	Aliphatic ester
Prenyl tiglate	11.32	1247	0.02	0.02	1507	8.96	Aliphatic ester
Bornyl acetate	12.82	1281	0.04	0.06	1494	8.65	Monoterp. ester
α -Cubebene	15.88	1333	0.07	[0.07]	1401	6.56*	Sesquiterpene
α -Copaene	17.58	1359	0.26	[12.57]	1422	6.93*	Sesquiterpene
β -Caryophyllene	20.45	1402	1.08	1.13	1513	9.11*	Sesquiterpene
β -Copaene	21.35	1413	0.03	[1.13]	1513	9.11*	Sesquiterpene
Aromadendrene	21.80	1418	0.07	[0.35]	1523	9.40*	Sesquiterpene

6,9-Gualadiene	22.42	1426	0.06	0.06	1531	9.65	Sesquiterpene
α -Humulene	23.19	1435	0.07	0.18	1588	11.80*	Sesquiterpene
trans-Cadin-1(6),4-diene	24.87	1455	0.07	[0.18]	1588	11.80*	Sesquiterpene
α -Muurole	27.41	1486	0.13	0.13	1638	13.87	Sesquiterpene
γ -Cadinene	28.43	1498	0.32	0.34	1660	14.98	Sesquiterpene
β -Bisabolene	28.64	1501	0.15	0.15	1650	14.50	Sesquiterpene
δ -Cadinene	29.11	1507	0.58	0.61	1665	15.27	Sesquiterpene
trans-Calamenene	29.44	1512	0.03	0.03	1728	18.57	Sesquiterpene
α -Cadinene	30.19	1522	0.04	0.03	1692	16.68	Sesquiterpene
Total identified			98.91%	98.73%			

*: 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 : 1.4650 \pm 0.0003 (20 °C)

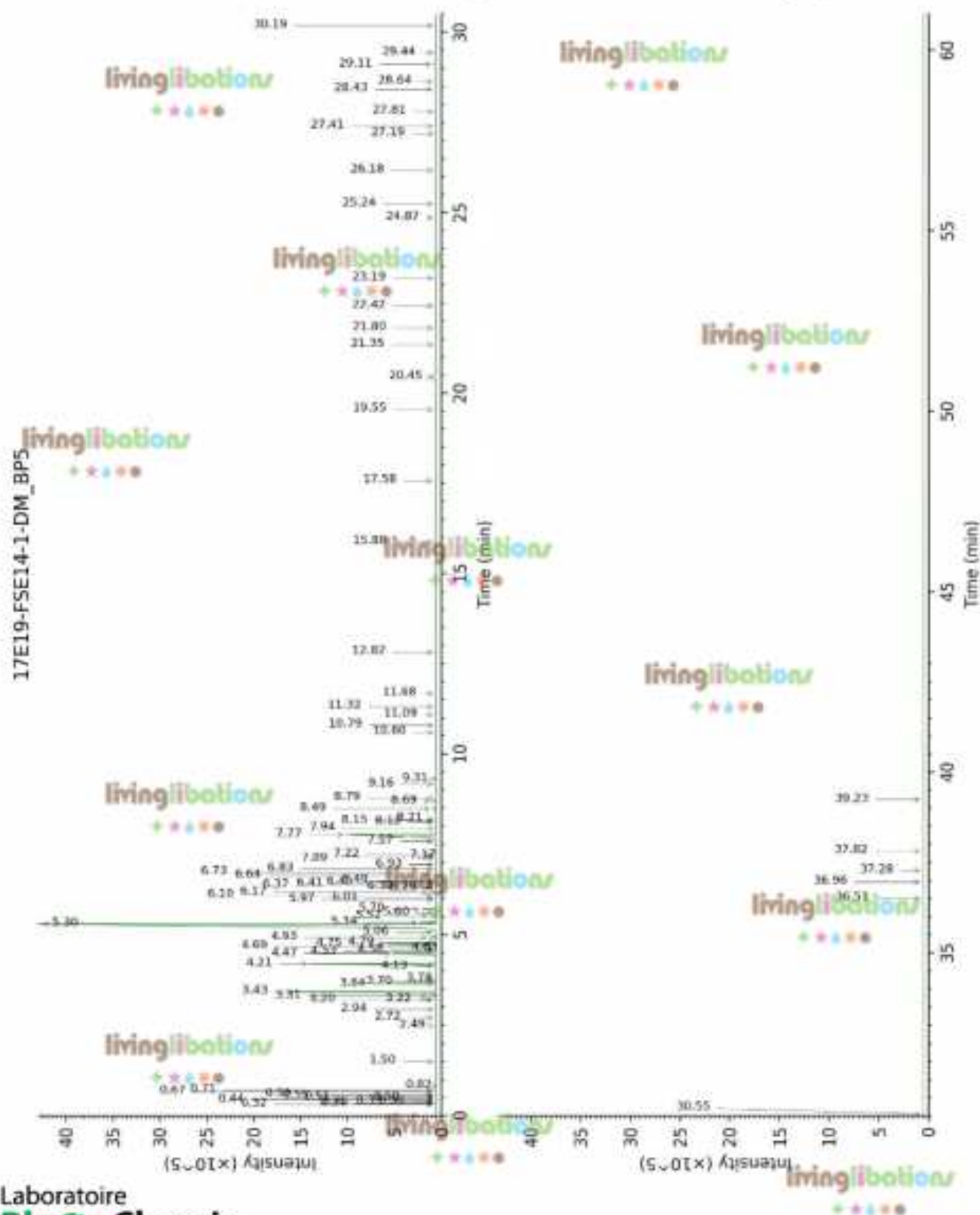
CONCLUSION

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

Essential oil, Salvia officinalis
Internal Code: 17E19-FSE14-1-DM

Customer Identification:
White Sage - Lot #3882

Report prepared for
Flowers Shining Everywhere Inc.



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