

GC/MS BATCH NUMBER: L50103

ESSENTIAL OIL: LAVENDER ORGANIC

BOTANICAL NAME: LAVANDULA ANGUSTIFOLIA ORGANIC

ORIGIN: BULGARIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF LAVENDER ORGANIC OIL	%
LINALYL ACETATE	31.3
LINALOOL	28.4
Cis- β -OCIMENE	6.3
TERPINEN-4-OL	5.6
LAVANDULYL ACETATE	4.0
β -CARYOPHYLLENE	3.9
Trans- β -FARNESENE	3.7
Trans- β -OCIMENE	3.0
α -TERPINEOL	1.2
3-OCTANONE	1.0

Comments from Robert Tisserand: I think this is an excellent organic lavender oil. Conforms to the ISO standard for Bulgarian lavender oil, except that terpinen-4-ol is very slightly high. This does not concern me.

Date : August 26, 2015

SAMPLE IDENTIFICATION

Internal code : 15H21-PTH6-1-AS

Customer identification : Organic Lavender - Bulgaria - L5010357

Type : Essential Oil

Source : *Lavandula angustifolia*

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.

Analysis date : 2015-08-23

IDENTIFIED COMPOUNDS

Identification	Colonne: BP5			Colonne: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
Methyl hexyl ether	1.50	821	0.06				
cis-Hex-3-en-1-ol	1.99	864	0.01	0.02	1350	5.46	Aliphatic alcohol
Hexanol	2.19	881	0.05	0.06	1316	4.96*	Aliphatic alcohol
Tricyclene	2.62	914	0.04	0.03	963	0.96	Monoterpene
α -Thujene	2.72	920	0.13	0.12	995	1.11	Monoterpene
α -Pinene	2.80	926	0.29	0.28	984	1.06	Monoterpene
Camphene	3.06	942	0.20	0.20	1024	1.34	Monoterpene
Thuja-2,4(10)-diene	3.16	948	0.00	0.01	1087	1.90	Monoterpene
Sabinene	3.48	969	0.03	0.03	1082	1.86	Monoterpene
β -Pinene	3.52	971	0.04	0.03	1063	1.69	Monoterpene
Myrcene	3.83	991	0.58	0.58	1135	2.45	Monoterpene
Octan-3-one	3.88*	994	1.21	0.70	1219	3.55	Aliphatic ketone
Octen-3-ol	3.88*	994	[1.21]	0.48	1419	6.62	Aliphatic alcohol
α -Phellandrene	4.04	1004	0.05	0.04	1125	2.34	Monoterpene
Octan-3-ol	4.06	1005	0.14	0.14	1368	5.74	Aliphatic alcohol
Δ^3 -Carene	4.14	1010	0.09	0.10	1110	2.15	Monoterpene
α -Terpinene	4.25	1016	0.05	0.05	1139	2.51	Monoterpene
para-Cymene	4.34	1021	0.33	0.23	1229	3.68	Monoterpene
Limonene	4.46*	1028	0.49	0.28	1157	2.73	Monoterpene
β -Phellandrene	4.46*	1028	[0.49]	0.75	1163	2.80*	Monoterpene
1,8-Cineole	4.51	1031	0.70	[0.75]	1163	2.80*	Monoterp. ether
cis- β -Ocimene	4.69	1041	6.29	6.43	1209	3.39*	Monoterpene
trans- β -Ocimene	4.85	1050	2.95	2.93	1222	3.59	Monoterpene
γ -Terpinene	5.00	1059	0.19	[6.43]	1209	3.39*	Monoterpene
cis-Linalool oxide (fur.)	5.29	1075	0.15	0.17	1401	6.25	Monoterp. alcohol
cis-Sabinene hydrate	5.34	1078	0.10	0.24	1424	6.72*	Monoterp. alcohol
Terpinolene	5.45	1085	0.08	0.10	1240	3.85	Monoterpene
trans-Linalool oxide (fur.)	5.59	1092	0.10	[0.24]	1424	6.72*	Monoterp. alcohol
α -Pinene oxide	5.69*	1098	0.05	[0.06]	1316	4.96*	Monoterp. ether
para-Cymenene	5.69*	1098	[0.05]	0.00	1391	6.08	Monoterpene
Linalool	6.05	1115	28.42	27.69	1522	9.00	Monoterp. alcohol
Octen-3-yl acetate	6.07	1116	0.78	1.10	1353	5.52	Aliphatic ester
Camphor	6.72	1145	0.21	0.26	1442	7.10	Monoterp. ketone
Lavandulol	7.26	1171	0.98	1.05	1635	13.21	Monoterp. alcohol
Borneol	7.44	1179	0.60	0.63	1638	13.35	Monoterp. alcohol
Terpinen-4-ol	7.61	1186	5.63	5.55	1550	9.91	Monoterp. alcohol
Cryptone	7.84	1197	0.10	0.13	1587	11.13	Monoterp. ketone
Hexyl butyrate	7.90	1200	0.35	0.26	1387	6.02	Aliphatic ester
α -Terpineol	8.12	1206	1.19	1.12	1643	13.58	Monoterp. alcohol
Nerol	9.06	1231	0.17	0.24	1750	19.44	Monoterp. alcohol
Linalyl acetate	9.92	1254	31.34	31.91	1528	9.20*	Monoterp. ester

Geraniol	10.11	1259	0.51	0.53	1805	22.86	Monoterp. alcohol
iso-Isopulegyl acetate	10.89	1280	0.19	0.15	1537	9.51*	Monoterp. ester
Lavandulyl acetate	11.27	1291	4.01	3.92	1573	10.67	Monoterp. ester
Neryl acetate	15.16	1362	0.36	0.47	1680	15.37	
Geranyl acetate	16.48	1385	0.64	0.62	1712	17.04	Monoterp. ester
β -Caryophyllene	17.37	1401	3.89	3.73	1535	9.45	Sesquiterpene
cis- α -Bergamotene	17.70	1405	0.54	[31.91]	1528	9.20*	Sesquiterpene
trans- α -Bergamotene	18.76	1419	0.13	[0.15]	1537	9.51*	Sesquiterpene
trans- β -Farnesene	21.09	1450	3.73	3.96	1631	13.02*	Sesquiterpene
Germacrene D	21.82	1459	0.38	[3.96]	1631	13.02*	Sesquiterpene
Caryophyllene oxide	29.95	1560	0.34	0.35	1859	26.78	Sesquiterp. ether
Total identified			98.89%	97.67%			

*: 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 : Slightly yellow liquid

Refractive index : 1.4623 \pm 0.0003 (20 °C)

CONCLUSION

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

Checked and approved by :

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

Note: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.



