



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: L50106

ESSENTIAL OIL: LAVENDER ORGANIC
BOTANICAL NAME: LAVANDULA ANGUSTIFOLIA
ORIGIN: BULGARIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF LAVENDER ORGANIC OIL	%
LINALYL ACETATE	33.1
LINALOOL	30.8
cis- β -OCIMENE	6.1
TERPINEN-4-OL	4.8
β -CARYOPHYLLENE	3.8
trans- β -FARNESENE	2.7
LAVANDULYL ACETATE	2.7
trans- β -OCIMENE	2.5
OCTAN-3-ONE	1.0
LAVANDULOL	1.0

Comments from Robert Tisserand: Beautiful sweet-floral, powdery odor profile. All thirteen key ISO constituents for Bulgarian Lavender oil are within range.

Date : July 26, 2017

SAMPLE IDENTIFICATION

Internal code : 17G25-PTH2-1-CC

Customer identification : Lavender Org - Bulgaria - L5010667R

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).

Identifications double-checked by GC-MS

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-07-26

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.	
Isovaleral	0.67	674	0.03	0.03	749	0.57	Aliphatic aldehyde
Hexan-2-ol	1.86	818	0.02				Aliphatic alcohol
Methyl hexyl ether	1.93	823	0.07	0.07	840	0.70	Aliphatic ether
cis-Hex-3-en-1-ol	2.49	866	0.03	1.12	1323	5.10*	Aliphatic alcohol
Hexanol	2.70	882	0.12	0.12	1288	4.60	Aliphatic alcohol
Tricyclene	3.24	918	0.02	0.02	916	0.91	Monoterpene
α -Thujene	3.32	923	0.11	0.13	945	1.03	Monoterpene
α -Pinene	3.43	929	0.23	0.21	936	0.99	Monoterpene
Camphene	3.71	946	0.16	0.14	990	1.23	Monoterpene
Sabinene	4.15	972	0.04	0.03	1053	1.69	Monoterpene
β -Pinene	4.21	976	0.04	0.03	1037	1.55	Monoterpene
Myrcene	4.49	992	0.53	0.50	1108	2.22	Monoterpene
Octen-3-ol	4.51	994	0.38	0.46	1385	6.06*	Aliphatic alcohol
Octan-3-one	4.53	995	1.04	0.78	1190	3.24	Aliphatic ketone
Butyl butyrate	4.70	1004	0.08				Aliphatic ester
α -Phellandrene	4.76*	1008	0.15	0.03	1100	2.14	Monoterpene
Δ 3-Carene	4.76*	1008	[0.15]	0.12	1082	1.98	Monoterpene
Octan-3-ol	4.79	1010	0.20	0.23	1338	5.33	Aliphatic alcohol
α -Terpinene	4.95	1018	0.04	0.06	1117	2.30	Monoterpene
Hexyl acetate	5.01	1021	0.41	0.50	1213	3.53*	Aliphatic ester
para-Cymene	5.14	1029	0.17	0.23	1198	3.34	Monoterpene
Limonene	5.18	1031	0.30	0.21	1134	2.52	Monoterpene
β -Phellandrene	5.21	1032	0.18	0.86	1138	2.57*	Monoterpene
1,8-Cineole	5.23	1034	0.58	[0.86]	1138	2.57*	Monoterp. ether
cis- β -Ocimene	5.38	1042	6.10	6.10	1180	3.11*	Monoterpene
trans- β -Ocimene	5.55	1051	2.46	2.52	1194	3.29	Monoterpene
γ -Terpinene	5.73	1061	0.17	[6.10]	1180	3.11*	Monoterpene
cis-Linalool oxide (fur.)	6.00	1076	0.11	[0.46]	1385	6.06*	Monoterp. alcohol
cis-Sabinene hydrate	6.06	1079	0.09	0.19	1394	6.20*	Monoterp. alcohol
Terpinolene	6.20	1087	0.08	[0.50]	1213	3.53*	Monoterpene
trans-Linalool oxide (fur.)	6.32	1093	0.09	[0.19]	1394	6.20*	Monoterp. alcohol
para-Cymenene	6.42	1099	0.02	0.02	1376	5.92	Monoterpene
Linalool	6.82	1114	30.80	30.14	1487	8.07	Monoterp. alcohol
Octen-3-yl acetate	6.84	1114	0.66	[1.12]	1323	5.10*	Aliphatic ester
Octan-3-yl acetate	7.05	1122	0.08	0.08	1291	4.65	Aliphatic ester
Camphor	7.78	1149	0.27	0.21	1414	6.50*	Monoterp. ketone
Lavandulol	8.37	1170	1.01	0.97	1599	11.48	Monoterp. alcohol
Borneol	8.65	1181	0.63	0.69	1605	11.69	Monoterp. alcohol
Terpinen-4-ol	8.85	1188	4.84	4.76	1523	8.91*	Monoterp. alcohol
Hexyl butyrate	9.20*	1200	0.49	0.27	1361	5.69	Aliphatic ester
Cryptone	9.20*	1200	[0.49]	0.18	1558	10.03	Monoterp. ketone

α-Terpineol	9.47	1207	0.95	4.11	1612	11.96*	Monoterp. alcohol
Nerol	10.63	1232	0.16	0.17	1719	16.97	Monoterp. alcohol
Linalyl acetate	11.64	1255	33.07	34.01	1498	8.32*	Monoterp. ester
Geraniol	11.85	1259	0.41	0.37	1773	20.05	Monoterp. alcohol
Bornyl acetate	12.94	1283	0.15	[34.01]	1498	8.32*	Monoterp. ester
Lavandulyl acetate	13.27	1291	2.65	2.71	1545	9.52	Monoterp. ester
α-Cubebene	15.99	1335	0.03	[0.21]	1414	6.50*	Sesquiterpene
Neryl acetate	17.86	1363	0.26	0.27	1654	13.63*	Monoterp. ester
β-Elemene	18.92	1380	0.05	[4.76]	1523	8.91*	Sesquiterpene
Geranyl acetate	19.36	1386	0.46	0.44	1682	15.10	Monoterp. ester
Hexyl hexanoate	19.84	1394	0.08	0.10	1589	11.13	Aliphatic ester
β-Caryophyllene	20.68*	1405	3.76	3.89	1519	8.82*	Sesquiterpene
α-Santalene	21.00	1409	0.44	0.45	1507	8.53	Sesquiterpene
<i>trans</i> -α-Bergamotene	22.17	1423	0.13	[4.76]	1523	8.91*	Sesquiterpene
<i>cis</i> -β-Farnesene	23.01	1433	0.04	0.14	1575	10.64*	Sesquiterpene
α-Humulene	23.39	1437	0.10	[0.14]	1575	10.64*	Sesquiterpene
allo-Aromadendrene	23.69	1441	0.04	0.06	1556	9.94	Sesquiterpene
9-epi-β-Caryophyllene	24.09	1446	0.11	0.14	1666	14.23*	Sesquiterpene
<i>trans</i> -β-Farnesene	24.60	1452	2.66	[4.11]	1612	11.96*	Sesquiterpene
Germacrene D	25.62	1464	0.37	[4.11]	1612	11.96*	Sesquiterpene
γ-Cadinene	28.68	1501	0.09	[0.14]	1666	14.23*	Sesquiterpene
β-Bisabolene	28.84	1504	0.02	[0.27]	1654	13.63*	Sesquiterpene
Caryophyllene oxide	33.79	1572	0.27	0.19	1843	24.62	Sesquiterp. ether
τ-Cadinol	37.48	1642	0.05	0.05	2061	37.21	Sesquiterp. alcohol
Total identified			99.18%	99.11%			

*: 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 : 1.4605 ± 0.0003 (20 °C)

CONCLUSION

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

17G25-PTH2-1-CC_BP5



