

GC/MS BATCH NUMBER: L30102

ESSENTIAL OIL: LAVANDIN ORGANIC
BOTANICAL NAME: LAVANDULA X INTERMEDIA
ORIGIN: FRANCE

KEY CONSTITUENTS PRESENT IN THIS BATCH OF ORGANIC LAVANDIN OIL	%
LINALOOL	34.9
LINALYL ACETATE	28.0
CAMPHOR	7.7
1,8-CINEOLE + β -PHELLANDRENE	4.7
TERPINEN-4-OL	3.9
BORNEOL	3.2
LAVANDULYL ACETATE	2.2
β -CARYOPHYLLENE	1.4
trans- β -FARNESENE	1.0
α -TERPINEOL	1.0
LAVANDULOL	0.9
cis- β -OCIMENE	0.7
MYRCENE	0.5
HEXYL BUTYRATE	0.4
trans- β -OCIMENE	0.4

Comments from Robert Tisserand: This is a classic, full-bodied Lavandin oil, which conforms to the 14 key constituents of the ISO standard.

Date : October 28, 2015

SAMPLE IDENTIFICATION

Internal code : 15J20-PTH4-1-LC

Customer identification : Lavandin Organic - France - L3010245R

Type : Essential oil

Source : *Lavandula x intermedia*

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 : 2015-10-21

IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
Methyl hexyl ether	1.49	820	0.03	0.03	912	0.72	Aliphatic ether
<i>cis</i> -Hex-3-en-1-ol	1.96	861	0.08	0.09	1347	5.42	Aliphatic alcohol
Hexanol	2.15	878	0.20	0.22	1320	5.03	Aliphatic alcohol
Tricyclene	2.60	913	0.02	0.01	963	0.96	Monoterpene
α -Thujene	2.70	919	0.08	0.08	996	1.11	Monoterpene
α -Pinene	2.78	924	0.40	0.39	985	1.06	Monoterpene
Camphene	3.04	941	0.28	0.28	1024	1.35	Monoterpene
α -Fenchene	3.13	947	0.01	0.00	1018	1.29	Monoterpene
Sabinene	3.45	967	0.10	0.11	1083	1.87	Monoterpene
β -Pinene	3.50	970	0.33	0.33	1063	1.69	Monoterpene
Myrcene	3.80	989	0.51	0.50	1134	2.45	Monoterpene
Octan-3-one	3.84	992	0.36	0.38	1221	3.57*	Aliphatic ketone
Δ 3-Carene	4.03*	1004	0.09	0.06	1110	2.15	Monoterpene
α -Phellandrene	4.03*	1004	[0.09]	0.02	1126	2.34	Monoterpene
Octanal	4.19*	1013	0.02	0.01	1252	4.02	Aliphatic aldehyde
<i>cis</i> -Hex-3-en-1-yl acetate	4.19*	1013	[0.02]	0.00	1283	4.47	Aliphatic ester
Octan-3-ol	4.19*	1013	[0.02]	0.01	1366	5.71	Aliphatic alcohol
α -Terpinene	4.22*	1014	0.05	0.04	1139	2.51*	Monoterpene
1,4-Cineole	4.22*	1014	[0.05]	[0.04]	1139	2.51*	Monoterp. ether
Hexyl acetate	4.32	1020	0.14	0.39	1240	3.85*	Aliphatic ester
Limonene	4.44*	1027	0.81	0.71	1158	2.74	Monoterpene
<i>para</i> -Cymene	4.44*	1027	[0.81]	0.13	1228	3.67	Monoterpene
β -Phellandrene	4.50*	1030	4.69	4.70	1164	2.82*	Monoterpene
1,8-Cineole	4.50*	1030	[4.69]	[4.70]	1164	2.82*	Monoterp. ether
<i>cis</i> - β -Ocimene	4.64	1038	0.68	0.78	1206	3.36*	Monoterpene
<i>trans</i> - β -Ocimene	4.81	1048	0.38	[0.38]	1221	3.57*	Monoterpene
γ -Terpinene	4.97	1057	0.14	[0.78]	1206	3.36*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.25	1073	0.11	0.19	1400	6.22	Monoterp. alcohol
Terpinolene	5.42	1083	0.26	[0.39]	1240	3.85*	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	5.55	1090	0.16	0.21	1423	6.69	Monoterp. alcohol
Linalool	6.03*	1114	35.57	34.92	1520	8.97	Monoterp. alcohol
Octan-3-yl acetate	6.03*	1114	[35.57]	0.14	1316	4.95	Aliphatic ester
<i>cis</i> - <i>para</i> -Menth-2-en-1-ol	6.31	1127	0.06	0.09	1504	8.43	Monoterp. alcohol
<i>trans</i> -Pinocarveol	6.61	1141	0.04	0.04	1594	11.36	Monoterp. alcohol
Camphor	6.72	1146	7.66	7.38	1443	7.11	Monoterp. ketone
Lavandulol	7.22	1168	0.88	1.05	1640	13.48	Monoterp. alcohol
Borneol	7.41	1177	3.16	3.35	1636	13.28	Monoterp. alcohol
Terpinen-4-ol	7.55	1183	3.94	3.84	1547	9.84	Monoterp. alcohol
Hexyl butyrate	7.85	1197	0.38	0.33	1386	6.02	Aliphatic ester
α -Terpineol	8.05	1204	1.00	1.35	1633	13.11*	Monoterp. alcohol
γ -Terpineol	8.31	1211	0.05	0.04	1646	13.73	Monoterp. alcohol

Nerol	8.99	1229	0.12	0.14	1748	19.27	Monoterp. alcohol
Neral	9.41	1241	0.15	0.11	1617	12.37*	Monoterp. aldehyde
Linalyl acetate	9.83	1252	27.98	28.81	1527	9.17	Monoterp. ester
Geraniol	9.99	1256	0.33	0.37	1802	22.66	Monoterp. alcohol
Lavandulyl acetate	11.15	1288	2.19	2.16	1570	10.59	Monoterp. ester
α -Copaene	14.87	1357	0.06	0.15	1446	7.19	Sesquiterpene
Neryl acetate	15.02	1360	0.27	0.17	1679	15.33*	Monoterp. ester
Geranyl acetate	16.32	1382	0.42	0.39	1710	16.95	Monoterp. ester
β -Caryophyllene	17.17	1397	1.38	1.38	1535	9.43	Sesquiterpene
Aromadendrene	18.59	1417	0.17	0.15	1539	9.56	Sesquiterpene
<i>trans</i> - β -Farnesene	20.84	1446	1.04	1.06	1630	13.00	Sesquiterpene
γ -Muurolene	21.61*	1456	0.56	[0.11]	1617	12.37*	Sesquiterpene
Germacrene D	21.61*	1456	[0.56]	[1.35]	1633	13.11*	Sesquiterpene
γ -Cadinene	24.41	1493	0.19	[0.17]	1679	15.33*	Sesquiterpene
(<i>E,E</i>)- α -Farnesene	25.13	1502	0.35	0.23	1707	16.76	Sesquiterpene
Caryophyllene oxide	29.68	1557	0.07	0.08	1858	26.71	Sesquiterp. ether
τ -Cadinol	34.96	1634	0.12	0.11	2085	38.55	Sesquiterp. alcohol
Total identified			98.07%	97.51%			

*: 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 : 1.4620 \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.

This report is digitally signed, it is only considered valid if the digital signature is intact.



