



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: CL0106

ESSENTIAL OIL: CYPRESS

BOTANICAL NAME: CUPRESSUS SEMPERVIRENS

ORIGIN: SPAIN

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CYPRESS OIL	%
α -PINENE	52.7
Δ^3 -CARENE	19.7
LIMONENE	4.7
α -PHELLANDRENE + α -TERPINENE + META-CYMENE	2.8
TERPINOLENE	2.4
β -PINENE	2.2
MYRCENE	2.2
α -CEDROL	2.2
α -TERPINYL ACETATE	1.6
TERPINEN-4-OL	1.0

Comments from Robert Tisserand: Fresh, green, woody odor quality. Eight of the nine key ISO constituents are within range, with germacrene D slight low - not a concern.

Date : October 3, 2017

SAMPLE IDENTIFICATION

Internal code : 17I28-PTH1-1-CC

Customer identification : Cypress - Spain – CL010671R

Type : Essential oil

Source : *Cupressus sempervirens*

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 : Benoit Roger Ph. D.

Analysis date : 2017-10-03

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.	
Cyclofenchene	2.62	874	0.05				Monoterpene
ξ-Fenchene	2.94	898	0.05	0.09	876	0.94	Monoterpene
Tricyclene	3.22*	915	0.20	0.14	911	1.08	Monoterpene
Hashishene	3.22*	915	[0.20]	52.77	948	1.23*	Monoterpene
α-Thujene	3.31	920	0.65	[52.77]	948	1.23*	Monoterpene
α-Pinene	3.49	930	52.67	[52.77]	948	1.23*	Monoterpene
α-Fenchene	3.68	942	0.55	0.87	981	1.42	Monoterpene
Camphene	3.71	944	0.76	1.29	987	1.47	Monoterpene
Thuja-2,4(10)-diene	3.80	949	0.03	0.94	1052	2.01*	Monoterpene
Sabinene	4.13	969	0.84	[0.94]	1052	2.01*	Monoterpene
β-Pinene	4.20	973	2.20	2.00	1033	1.84	Monoterpene
Myrcene	4.48	989	2.18	2.80	1110	2.61*	Monoterpene
Δ3-Carene	4.80*	1007	19.79	19.72	1090	2.36	Monoterpene
α-Phellandrene	4.80*	1007	[19.79]	[2.80]	1110	2.61*	Monoterpene
α-Terpinene	4.94	1015	0.35	[2.80]	1110	2.61*	Monoterpene
meta-Cymene	5.07	1022	0.15	[2.80]	1110	2.61*	Monoterpene
para-Cymene	5.14	1026	0.40	0.53	1206	3.85*	Monoterpene
Limonene	5.19	1028	4.70	5.19	1136	2.94*	Monoterpene
β-Phellandrene	5.21	1029	0.33	[5.19]	1136	2.94*	Monoterpene
1,8-Cineole	5.23	1031	0.08	[5.19]	1136	2.94*	Monoterp. ether
cis-β-Ocimene	5.35	1037	0.01	0.73	1182	3.58*	Monoterpene
trans-β-Ocimene	5.53	1047	0.03	[0.53]	1206	3.85*	Monoterpene
Lavender lactone	5.62	1052	0.04	0.20	1599	13.14*	Lactone
γ-Terpinene	5.72	1057	0.70	[0.73]	1182	3.58*	Monoterpene
Isoterpinolene	6.12	1079	0.12	2.54	1222	4.09*	Monoterpene
Terpinolene	6.21	1084	2.43	[2.54]	1222	4.09*	Monoterpene
para-Cymenene	6.42	1095	0.08	0.10	1363	6.26	Monoterpene
Linalool	6.69	1106	0.39	0.80	1490	9.06*	Monoterp. alcohol
trans-Pinocarveol	7.61	1139	0.06	0.32	1576	12.22*	Monoterp. alcohol
Camphor	7.77	1145	0.04	0.05	1417	7.31	Monoterp. ketone
Karahanaenone	8.01	1154	0.22	0.26	1430	7.60	Monoterp. ketone
trans-β-Terpineol	8.51	1172	0.06	0.24	1604	13.36*	Monoterp. alcohol
Borneol	8.63	1176	0.09	2.52	1611	13.70*	Monoterp. alcohol
Terpinen-4-ol	8.81	1183	1.02	1.31	1521	10.12*	Monoterp. alcohol
para-Cymen-8-ol	9.22	1198	0.03	0.06	1757	22.28	Monoterp. alcohol
Myrtenal	9.35	1201	0.07	[1.31]	1521	10.12*	Monoterp. aldehyde
α-Terpineol	9.46	1203	0.35	[2.52]	1611	13.70*	Monoterp. alcohol
Carvacrol methyl ether	10.97	1236	0.03	[1.31]	1521	10.12*	Monoterp. ether
Bornyl acetate	12.91	1279	0.61	0.70	1500	9.37	Monoterp. ester
trans-Pinocarvyl acetate	13.49	1292	0.23	0.24	1514	9.86	Monoterp. ester
trans-β-Terpinyl acetate	15.83*	1329	0.22	[0.20]	1599	13.14*	Monoterp. ester

α-Longipinene	15.83*	1329	[0.22]	0.05	1391	6.71	Sesquiterpene
α-Cubebene	15.97	1331	0.09	0.12	1402	6.94	Sesquiterpene
α-Terpinyl acetate	16.69	1342	1.63	[2.52]	1611	13.70*	Monoterp. ester
α-Copaene	17.70	1357	0.06	0.03	1426	7.51	Sesquiterpene
α-Cedrene	20.14	1394	0.22	[0.80]	1490	9.06*	Sesquiterpene
β-Funebrene?	20.24	1395	0.18	[0.80]	1490	9.06*	Sesquiterpene
β-Caryophyllene	20.59	1400	0.23	[1.31]	1521	10.12*	Sesquiterpene
β-Cedrene	20.78	1402	0.10	0.07	1510	9.72	Sesquiterpene
α-Humulene	23.38	1433	0.16	[0.32]	1576	12.22*	Sesquiterpene
Thujopsadiene?	24.07	1442	0.06				Sesquiterpene
γ-Muurolene	25.47	1458	0.17	[0.24]	1604	13.36*	Sesquiterpene
Germacrene D	25.61	1460	0.24	[2.52]	1611	13.70*	Sesquiterpene
Bicyclgermacrene	26.88	1475	0.04	0.11	1637	15.09*	Sesquiterpene
β-Himachalene	27.42	1482	0.06	0.09	1626	14.52	Sesquiterpene
α-Muurolene	27.64	1484	0.09	[0.11]	1637	15.09*	Sesquiterpene
γ-Cadinene	28.68	1497	0.09	0.10	1663	16.51	Sesquiterpene
δ-Cadinene	29.34	1506	0.32	0.34	1667	16.70	Sesquiterpene
α-Cedrol	35.47	1592	2.16	2.30	1980	36.25	Sesquiterp. alcohol
α-Cadinol	38.08	1651	0.02	0.03	2113	40.69	Sesquiterp. alcohol
Isopimaradiene?	46.86	1936	tr				Diterpene
Manoyl oxide	47.60	1970	tr				Diterp. ether
Total identified			98.73%	99.65%			

*: 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 : Faintly yellow liquid

Refractive index : 1.4695 ± 0.0003 (20 °C)

CONCLUSION

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

17128-PTH1-1-CC_WAX

