

# **ANALYSIS Cypress Wood White Essential Oil**

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Date : August 9, 2017

#### SAMPLE IDENTIFICATION

**Internal code :** 17G28-FSE16-1-CC

**Customer Identification :** White Cypress Wood - Autralia - 9346754001001

**Type :** Essential oil

**Source :** *Callitris glaucophylla*

**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 :** Alexis St-Gelais, M. Sc., chimiste

**Analysis date :** 2017-08-02



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.	
Furfural	2.23	846	0.02	0.02	1409	6.34	Furan
Tricyclene	3.25	919	0.03	0.03	922	0.92	Monoterpene
$\alpha$ -Pinene	3.44	930	1.15	1.16	944	1.01	Monoterpene
Camphene	3.73	948	0.04	0.03	997	1.25	Monoterpene
Thuja-2,4(10)-diene	3.82	953	0.05	0.04	1052	1.68	Monoterpene
$\beta$ -Pinene	3.97	977	0.06	0.04	1039	1.56	Monoterpene
6-Methyl-5-hepten-2-one	4.58	998	3.72	3.61	1271	4.28	Aliphatic ketone
$\Delta^3$ -Carene	4.78	1009	0.13	0.03	1081	1.99	Monoterpene
2,6-Dimethyl-6-hepten-2-ol	5.12	1028	0.03				Aliphatic alcohol
para-Cymene	5.16	1030	0.03	0.03	1203	3.35	Monoterpene
Limonene	5.20	1032	0.07	0.05	1139	2.54	Monoterpene
$\beta$ -Phellandrene	5.23	1034	0.05	0.07	1144	2.60	Monoterpene
$\beta$ -Cineole	5.26	1035	0.11	0.10	1143	2.58	Monoterp. ether
p-mentha-1,8-diol	6.04	1078	0.02	0.01	1450	7.04	Monoterp. alcohol
para-Cymenene	6.45	1100	0.05	0.03	1365	5.65	Monoterpene
Linalool	6.73	1110	0.11	0.14	1486	7.87	Monoterp. alcohol
6-Methyl-3,5-heptanedien-2-one	6.89		0.05				Aliphatic ketone
$\alpha$ -Campholenal	7.19	1127	0.02				Monoterp. aldehyde
trans-Pinocarveol	7.65	1144	0.19	0.17	1562	9.87	Monoterp. alcohol
Pinocamphone	8.18	1163	0.04	0.04	1425	6.58	Monoterp. ketone
Borneol	8.68	1182	0.08	0.24	1608	11.53	Monoterp. alcohol
Myrtenal	9.37	1204	0.04	0.10	1523	8.74	Monoterp. aldehyde
$\alpha$ -Terpineol	9.52	1208	0.15	1.44	1621	12.00*	Monoterp. alcohol
Verbenone	9.87*	1215	0.18	0.05	1612	11.66	Monoterp. ketone
Myrtenol	9.87*	1215	[0.18]	0.10	1697	15.45	Monoterp. alcohol
Citronellol	10.88	1238	0.15	0.33	1703	15.70	Monoterp. alcohol
Methyl citronellate	11.98	1262	0.15	0.14	1502	8.23	Monoterp. ester
Methyl geranate	15.55	1328	1.37	[1.44]	1621	12.00*	Monoterp. ester
Citronellic acid	20.62	1484	2.14	25.40	2175	40.32	Monoterp. acid
$\alpha$ -Gualene	22.23	1424	0.60	0.94	1529	8.88	Sesquiterpene
Geranic acid	22.55*	1427	6.29	2.44	2248	42.16	Monoterp. acid
Eidanolide	22.55*	1427	[6.29]				Monoterp. lactone
$\alpha$ -Humulene	22.80	1430	0.11	0.13	1585	10.69	Sesquiterpene
4,5-diepi-Aristolochene	23.53	1439	0.12	0.19	1592	10.91	Sesquiterpene
Selinene (4,11)-diene	25.22*	1460	2.05				Sesquiterpene
Methyl (2E,4E)-3,7-dimethyl-2,4,6-trienoate	25.22*	1460	[2.05]				Monoterp. ester
$\beta$ -Selinene	26.46	1474	2.80	2.71	1634	12.44	Sesquiterpene
Eudesma-2,4(15),11-triene	26.81	1479	1.89	1.30	1656	13.31	Sesquiterpene
$\alpha$ -Selinene	27.10	1482	2.39	2.62	1643	12.79*	Sesquiterpene

δ-Guaiene	27.70	1489	0.25	[2.62]	1643	12.79*	Sesquiterpene
α-Elemol	32.86	1560	0.48	0.36	2000	34.09	Sesquiterp. alcohol
Guaiol	35.68	1599	9.96	10.34	2014	34.67	Sesquiterp. alcohol
Agarospirol	36.95	1629	0.53				Sesquiterp. alcohol
γ-Eudesmol	37.17	1634	3.94	4.46	2071	37.15	Sesquiterp. alcohol
Hinesol	37.40	1640	0.21	0.22	2097	37.96	Sesquiterp. alcohol
β-Eudesmol	38.15	1658	8.92	17.45	2121	38.68*	Sesquiterp. alcohol
α-Eudesmol	38.23	1660	1.52	[17.45]	2121	38.68*	Sesquiterp. alcohol
Hanamyol	38.38	1664	0.25				Sesquiterp. ether
Bulnesol	38.62	1670	7.66	[17.45]	2121	38.68*	Sesquiterp. alcohol
Unknown (m/z = 233, 173 (82), 91 (58), 201 (51), 105 (41), 145 (39)... 248 (37))	42.39	1780	0.98				Sesquiterp. lactone
Callitrin isomer	43.01	1800	0.71	0.52	2446	46.58	Sesquiterp. lactone
Callitrin	43.82	1829	0.70	0.59	2482	47.32	Sesquiterp. lactone
Unknown (m/z = 143, 119 (85), 41 (23), 159 (22)... 232 (9))	45.84	1903	1.30				Sesquiterp. lactone
Dihydrocolumellarin	45.92	1906	1.55	1.69	2540	48.47	Sesquiterp. lactone
Columellarin isomer?	46.89	1945	0.70	0.82	2639	50.34	Sesquiterp. lactone
Columellarin	47.17*	1956	2.17	1.67	2655	50.62	Sesquiterp. lactone
Callitrisin isomer II	47.17*	1956	[2.17]	0.29	2713	51.69	Sesquiterp. lactone
Dihydrocallitrisin	47.41	1966	0.27				Sesquiterp. lactone
Unknown citronellyl ester	47.78	1981	0.39				Monoterp. ester
<b>Total identified</b>			<b>88.28%</b>			<b>82.13%</b>	

\*: 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:** 1.4868 ± 0.0003 (20 °C)

#### CONCLUSION

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





