

**Date :** September 12, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17I07-ORA5-1-DM

**Customer identification :** Eucalyptus

**Type :** Essential oil

**Source :** *Eucalyptus radiata*

**Customer :** Organic Aromas

*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 :** 2017-09-11

Checked and approved by :

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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.	
Ethyl 2-methylbutyrate	2.39	857	0.01	0.01	991	1.49*	Aliphatic ester
$\alpha$ -Thujene	3.31	920	0.21	1.84	949	1.24†	Monoterpene
$\alpha$ -Pinene	3.42	927	1.71	[1.84]	941	1.20†	Monoterpene
Camphene	3.71	944	0.01	[0.01]	991	1.49*	Monoterpene
Sabinene	4.14	969	1.08	1.07	1058	2.05	Monoterpene
$\beta$ -Pinene	4.20	973	0.55	0.50	1037	1.87	Monoterpene
Myrcene	4.48	989	0.92	0.84	1114	2.66	Monoterpene
$\alpha$ -Phellandrene	4.76	1005	0.34	0.22	1107	2.57	Monoterpene
$\alpha$ -Terpinene	4.95	1015	0.21	0.33	1119	2.72	Monoterpene
para-Cymene	5.21†	1030	75.16	0.57	1210	3.91	Monoterpene
Limonene	5.33†	1036	[75.16]	74.92	1153	3.16	Monoterpene
cis- $\beta$ -Ocimene	5.37	1038	0.03	0.46	1192	3.64*	Monoterpene
trans- $\beta$ -Ocimene	5.54	1048	0.19	0.14	1204	3.82	Monoterpene
$\gamma$ -Terpinene	5.73	1058	0.50	[0.46]	1192	3.64*	Monoterpene
cis-Linalool oxide (fur.)	6.01	1073	0.02	0.02	1375	6.45	Monoterp. alcohol
cis-Sabinene hydrate	6.07	1076	0.02	0.01	1413	7.23*	Monoterp. alcohol
Terpinolene	6.20	1084	0.16	0.15	1225	4.14	Monoterpene
trans-Linalool oxide (fur.)	6.33	1090	0.02	[0.01]	1413	7.23*	Monoterp. alcohol
Linalool	6.70	1106	0.42	0.55	1494	9.17*	Monoterp. alcohol
cis-para-Menth-2-en-1-ol	7.23	1126	0.13	[0.55]	1494	9.17*	Monoterp. alcohol
trans-Pinocarveol	7.63	1140	0.01	0.01	1573	12.10	Monoterp. alcohol
trans-para-Menth-2-en-1-ol	7.75	1144	0.09	0.08	1552	11.28	Monoterp. alcohol
Citronellal	7.98	1153	0.02	[0.01]	1413	7.23*	Monoterp. aldehyde
$\delta$ -Terpineol	8.64	1177	0.22	0.95	1596	12.98*	Monoterp. alcohol
Terpinen-4-ol	8.84	1184	2.00	1.98	1524	10.26	Monoterp. alcohol
cis-Piperitol	9.41	1202	0.02				Monoterp. alcohol
$\alpha$ -Terpineol	9.61	1206	10.68	12.57	1621	14.25†*	Monoterp. alcohol
trans-Piperitol	10.00	1215	0.04	0.04	1664	16.56	Monoterp. alcohol
Nerol	10.60	1228	0.07	0.08	1725	20.14	Monoterp. alcohol
Citronellol	10.85	1234	0.05	0.05	1704	18.73	Monoterp. alcohol
Neral	11.20	1241	0.73	[0.95]	1596	12.98*	Monoterp. aldehyde
Piperitone	11.83	1255	0.17	[11.26]	1621	14.25*	Monoterp. ketone
Geraniol	11.90	1257	0.55	0.61	1777	23.64	Monoterp. alcohol
Geranial	12.71	1275	0.98	1.01	1644	15.45	Monoterp. aldehyde
$\alpha$ -Terpinyl acetate	16.72	1342	1.76	[12.57]	1614	13.90†	Monoterp. ester
Methyl (E)-cinnamate	19.98	1391	0.18	0.19	1951	34.95	Phenylpropanoid ester
$\beta$ -Caryophyllene	20.61	1400	0.07	0.06	1517	9.99	Sesquiterpene
cis- $\beta$ -Guaiene	26.88	1475	0.14	[0.95]	1596	12.98*	Sesquiterpene
Globulol	34.36	1576	0.02	0.02	1971	35.83	Sesquiterp. alcohol
Viridiflorol	34.85	1583	0.01	0.01	1987	36.55	Sesquiterp. alcohol

$\gamma$ -Eudesmol	36.97	1624	0.02	0.01	2079	39.66	Sesquiterp. alcohol
$\beta$ -Eudesmol	37.90	1647	0.03	0.02	2102	40.41	Sesquiterp. alcohol
<b>Total identified</b>			<b>99.55%</b>	<b>99.32%</b>			

\*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

†: Peaks apexes were resolved, but peaks overlapped and were summed for analysis

Note: no correction factor was applied

#### OTHER DATA

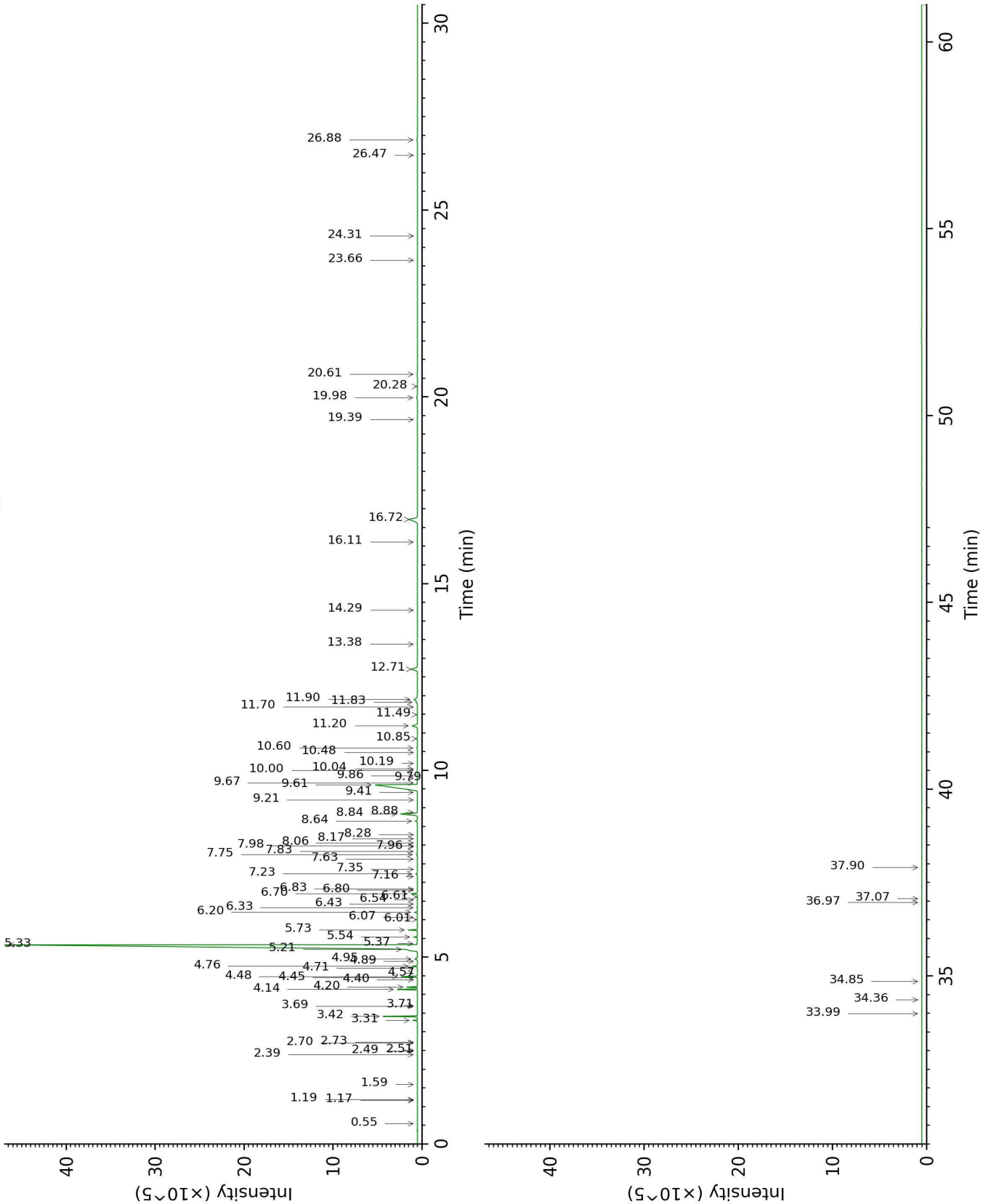
**Physical aspect :** Clear liquid

**Refractive index :** 1.4633  $\pm$  0.0003 (20 °C)

#### CONCLUSION

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

17107-ORA5-1-DM\_BP5



17107-ORA5-1-DM\_WAX

