

Date : March 31, 2017

SAMPLE IDENTIFICATION

Internal code : 17C30-GUR2-1-DM

Customer identification : Eucalyptus - Lot #R-119514

Type : Essential oil

Source : *Eucalyptus globulus*

Customer : HealthLand LLC.


ANALYSIS

Method : PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Analyst : Benoit Roger Ph. D.

Analysis date : 2017-03-30

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.	
α-Pinene	3.41	928	0.92	0.88	941	1.15	Monoterpene
Camphene	3.70	945	0.01	0.01	995	1.43	Monoterpene
β-Pinene	4.18	974	0.20	0.18	1035	1.79	Monoterpene
Myrcene	4.46	991	0.65	0.62	1113	2.53	Monoterpene
α-Phellandrene	4.73*	1007	0.74	0.68	1107	2.45*	Monoterpene
Δ3-Carene	4.73*	1007	[0.74]	[0.68]	1107	2.45*	Monoterpene
α-Terpinene	4.93	1017	0.22	0.24	1121	2.63	Monoterpene
1,8-Cineole	5.31*	1038	90.63	88.75	1155	3.08*	Monoterp. ether
Limonene	5.31*	1038	[90.63]	[88.75]	1155	3.08*	Monoterpene
para-Cymene	5.31*	1038	[90.63]	2.22	1206	3.77	Monoterpene
cis-β-Ocimene	5.34	1040	0.41	5.73	1189	3.52*	Monoterpene
trans-β-Ocimene	5.51	1049	0.09	0.09	1200	3.67	Monoterpene
γ-Terpinene	5.72	1060	5.47	[5.73]	1189	3.52*	Monoterpene
cis-Linalool oxide (fur.)	5.96	1074	0.02	0.02	1373	6.29	Monoterp. alcohol
Terpinolene	6.17	1085	0.25	0.24	1221	3.97	Monoterpene
trans-Linalool oxide (fur.)	6.27	1091	0.01	0.01	1404	6.77	Monoterp. alcohol
para-Cymenene	6.35	1095	0.02	0.02	1364	6.14	Monoterpene
Linalool	6.59	1106	0.06	0.04	1490	8.84	Monoterp. alcohol
Isoamyl isovalerate	6.70	1109	0.01	0.01	1245	4.34	Aliphatic ester
cis-para-Menth-2-en-1-ol	7.16	1126	0.02	0.01	1512	9.43	Monoterp. alcohol
trans-Pinocarveol	7.49	1138	0.02	0.01	1564	11.34	Monoterp. alcohol
Terpinen-4-ol	8.65	1181	0.07	0.06	1525	9.88	Monoterp. alcohol
α-Terpineol	9.26	1202	0.08	0.07	1620	13.60	Monoterp. alcohol
Total identified			99.9%	99.89%			

*: 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 : 1.4595 ± 0.0003 (20 °C)

COMPLIANCE WITH NF T 75-225:1993 (OIL OF EUCALYPTUS GLOBULUS, RECTIFIED)

Compound	70-75%		80-85%		Observed %	Complies?
	Min. %	Max. %	Min. %	Max. %		
α-Pinene	tr	20	tr	12	0.9	Yes
Limonene	2	15	2	15	88.8	80-85%
1,8-Cineole	70		80			
para-Cymene	1	6	1	10	2.2	Yes
trans-Pinocarveol	tr	10	tr	6	0.02	Yes
Aromadendrene		tr		tr	Not detected	Yes
Globulol		tr		tr	Not detected	Yes
Refractive index	1.460	1.470	1.458	1.465	1.4595	80-85%

CONCLUSION

No adulterant, contaminant or diluent were detected using this method. The oil comply with the ISO norm for a 80-85% eucalyptus oil.

