

GC/MS BATCH NUMBER: D10102

ESSENTIAL OIL: DILL WEED
BOTANICAL NAME: ANETHUM GRAVEOLENS
ORIGIN: USA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF DILL WEED OIL	%
LIMONENE	35.3
CARVONE	29.6
α -PHELLANDRENE	21.3
DILL ETHER	5.7
1,8-CINEOLE	2.7
para-CYMENE	1.0
trans-DIHYDROCARVONE	1.0

Comments from Robert Tisserand: There is no ISO standard for Dill weed, but the lab analysis and olfactory assessment point to a very good quality oil.

Date : February 11, 2016

SAMPLE IDENTIFICATION

Internal code : 16B01-PTH9-1-LC

Customer identification : Dill Weed - USA - D1010259R

Type : Essential oil

Source : *Anethum graveolens*

Customer : Plant Therapy

ANALYSIS

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

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2016-02-08

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.	
Hexanal	1.42	803	0.01	0.01	1028	1.42	Aliphatic aldehyde
<i>cis</i> -Hex-3-en-1-ol	2.13	864	0.06	0.06	1336	5.26	Aliphatic alcohol
<i>trans</i> -Hex-2-en-1-ol	2.30	879	0.01	0.02	1359	5.62	Aliphatic alcohol
Hexanol	2.34	883	0.02	0.02	1310	4.89	Aliphatic alcohol
α -Thujene	2.86	919	0.13	0.15	956	1.07	Monoterpene
α -Pinene	2.95	925	0.68	0.67	947	1.03	Monoterpene
Camphene	3.22	941	0.02	0.01	1002	1.29	Monoterpene
Sabinene	3.64	968	0.07	0.07	1066	1.76	Monoterpene
β -Pinene	3.69	971	0.03	0.04	1049	1.61	Monoterpene
<i>trans</i> -Dehydroxylinalool oxide	4.00*	990	0.44	0.27	1163	2.80	Monoterp. ether
Myrcene	4.00*	990	[0.44]	21.78	1122	2.28*	Monoterpene
α -Phellandrene	4.31*	1008	22.03	[21.78]	1122	2.28*	Monoterpene
Δ 3-Carene	4.31*	1008	[22.03]	0.01	1091	1.98	Monoterpene
α -Terpinene	4.31*	1008	[22.03]	0.45	1125	2.32	Monoterpene
Limonene	4.75*	1032	38.84	35.32	1155	2.70	Monoterpene
<i>para</i> -Cymene	4.75*	1032	[38.84]	1.04	1215	3.47	Monoterpene
1,8-Cineole	4.75*	1032	[38.84]	2.66	1158	2.74	Monoterp. ether
<i>cis</i> - β -Ocimene	4.87	1039	0.02	0.03	1192	3.17	Monoterpene
<i>trans</i> - β -Ocimene	5.03	1048	0.01	0.02	1208	3.37	Monoterpene
γ -Terpinene	5.20	1058	0.02	0.02	1194	3.19	Monoterpene
Terpinolene	5.65	1085	0.05	0.05	1228	3.66	Monoterpene
Octanol	5.71	1088	0.01	0.01	1512	8.54	Aliphatic alcohol
<i>para</i> -Cymenene	5.88	1097	0.07				Monoterpene
<i>cis</i> -Limonene oxide	6.57	1128	0.03	0.02	1388	6.06	Monoterp. ether
<i>cis</i> - <i>para</i> -Menth-2-en-1-ol	6.63	1130	0.04	0.03	1507	8.38	Monoterp. alcohol
<i>trans</i> -Limonene oxide	6.73	1134	0.02				Monoterp. ether
<i>trans</i> - <i>para</i> -Menth-2-en-1-ol	7.07	1149	0.03	0.02	1567	10.31	Monoterp. alcohol
Dill ether	8.00	1186	5.65	5.46	1438	6.99	Monoterp. ether
<i>cis</i> -Dihydrocarvone	8.46	1201	0.35	0.41	1525	8.99	Monoterp. ketone
<i>trans</i> -Dihydrocarvone	8.62	1204	0.95	0.97	1539	9.44	Monoterp. ketone
Isodihydrocarveol	9.48	1225	0.02				Monoterp. alcohol
<i>trans</i> -Carveol	9.64	1229	0.03	0.04	1766	19.90	Monoterp. alcohol
Carvone	10.43	1249	29.61	29.42	1645	13.42	Monoterp. ketone
<i>cis</i> -Carveol	10.56*	1262	0.10	0.06	1795	21.65	Monoterp. alcohol
Piperitone	10.56*	1262	[0.10]	0.04	1622	12.36	Monoterp. ketone
Isopiperitenone	11.23	1278	0.02	0.09	1730	17.74	Monoterp. ketone

Piperitenone	14.59	1340	0.10		Monoterp. ketone
Total identified			99.47%	99.27%	

*: 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 : 1.4805 ± 0.0003 (20 °C)

CONCLUSION

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



