GC-MS Profiling Analysis
Prepared for Jade Bloom, Inc

Date: February 7, 2018
Sample: Basil
Type: Essential Oil
Source: *Ocimum basilicum ct. Methylchavicol*
Batch: 0248

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Acetone	0.02		Aliphatic ketone
Isovaleral	tr	tr	Aliphatic aldehyde
2-Methylbutyral	tr		Aliphatic aldehyde
Isoamyl alcohol	tr	tr*	Aliphatic alcohol
2-Methylbutanol	tr	[tr]*	Aliphatic alcohol
Toluene	tr	0.01*	Simple phenolic
Ethyl 2-methylbutyrate	tr	0.03	Aliphatic ester
(3*Z*)-Hexenol	0.01	0.02	Aliphatic alcohol
α-Pinene	0.05*	0.05	Aliphatic alcohol
α-Thujene	[0.05]*	[0.01]*	Monoterpene
Camphene	0.01	tr	Monoterpene
Benzaldehyde	0.01	0.01	Simple phenolic
β-Pinene	0.07*	0.03	Monoterpene
Sabinene	[0.07]*	0.01	Monoterpene
Octen-3-ol	0.02	0.02	Aliphatic alcohol
6-Methyl-5-hepten-2-one	0.10	0.09	Aliphatic ketone
Myrcene	0.05	0.04	Monoterpene
Octan-3-ol	0.01	tr	Aliphatic alcohol
Octanal	0.03	0.03	Aliphatic aldehyde
Δ3-Carene	tr		Monoterpene
(3*Z*)-Hexenyl acetate	0.01	0.01	Aliphatic ester
para-Cymene	0.01	0.01	Monoterpene
1,8-Cineole	0.10*	0.05	Monoterpenic ether
Limonene	[0.10]*	0.05	Monoterpene
2-Ethylhexanol	0.04	0.04	Aliphatic alcohol
(*Z*)-β-Ocimene	0.02	0.01	Monoterpene
(*E*)-β-Ocimene	0.20	0.20	Monoterpene
γ-Terpinene	0.01	0.01	Monoterpene
cis-Linalool oxide (fur.)	0.02	0.02	Monoterpenic alcohol
Octanol	0.05	0.06*	Aliphatic alcohol
Fenchone	0.01	0.01	Aliphatic alcohol
Terpinolene	0.01	0.02	Monoterpene
trans-Linalool oxide (fur.)	0.03	0.04	Monoterpenic alcohol
Linalool	17.15*	17.19*	Monoterpenic alcohol
6-Methyl-3,5-heptadien-2-one	[17.15]*	[0.06]*	Aliphatic ketone
Octen-3-yl acetate	tr	tr	Aliphatic ester
neo-Isopulegol	tr	[0.06]*	Monoterpenic alcohol
trans-Chrysanthemal	0.02	0.02	Monoterpenic aldehyde
Menthone	0.05	0.05	Monoterpenic ketone
Isomenthone	0.02	0.02	Monoterpenic ketone
Menthol	0.27	0.33*	Monoterpenic alcohol
α-Terpineol	75.69	0.52*	Monoterpenic alcohol
Methylchavicol	[75.69]	75.81*	Phenylpropanoid
Octyl acetate	0.02	0.02	Aliphatic ester
Nerol	0.04	0.05	Monoterpenic alcohol
(3*Z*)-Hexenyl isovalerate	0.01	0.03*	Aliphatic ester
Neral	0.42	0.69*	Monoterpenic aldehyde
Piperitone	0.01	0.01	Monoterpenic ketone

Geraniol	0.07	0.08	Monoterpenic alcohol
Geranial	0.63	0.75*	Monoterpenic aldehyde
(*E*)-Anethole	0.01	0.01	Phenylpropanoid
Menthyl acetate	0.01	[17.19]*	Monoterpenic ester
Eugenol	0.07	0.06	Phenylpropanoid
Neryl acetate	0.01	0.01	Monoterpenic ester
8-Hydroxylinalool isomer	0.04*		Monoterpenic alcohol
α-Copaene	[0.04]*	[0.03]*	Sesquiterpene
β-Bourbonene	0.01	0.01	Sesquiterpene
(3*Z*)-Hexenyl (3*Z*)-hexenoate	0.10	[0.75]*	Aliphatic ester
β-Elemene	tr	0.92*	Sesquiterpene
α-Gurjunene	0.01	0.01	Sesquiterpene
Methyleugenol	0.04	0.04	Phenylpropanoid
β-Caryophyllene	0.45	[0.92]*	Sesquiterpene
cis-α-Bergamotene	0.01	0.01	Sesquiterpene
trans-α-Bergamotene	0.48	[0.92]*	Sesquiterpene
Sesquisabinene A	0.06	[0.33]*	Sesquiterpene
α-Humulene	0.20	[75.81]*	Sesquiterpene
(*E*)-β-Farnesene	0.27	[0.69]*	Sesquiterpene
Germacrene D	0.51*	[0.52]*	Sesquiterpene
γ-Muurolene	[0.51]*	0.08	Sesquiterpene
β-Selinene	[0.51]	0.02	Sesquiterpene
Bicyclogermacrene	0.11	0.10	Sesquiterpene
β-Bisabolene	0.13	[0.75]*	Sesquiterpene
δ-Cadinene	0.04	0.03	Sesquiterpene
β-Sesquiphellandrene	0.04	0.03	Sesquiterpene
(*E*)-α-Bisabolene	1.54	1.53	Sesquiterpene
(*E*)-para-Methoxycinnamaldehyde	0.04	0.05	Phenylpropanoid
(*E*)-Nerolidol	0.03	0.03	Sesquiterpenic alcohol
Unknown	0.03	0.04	Phenylpropanoid
Spathulenol	0.01	tr	Sesquiterpenic alcohol
Caryophyllene oxide isomer	0.02*	tr	Sesquiterpenic ether
Caryophyllene oxide	[0.02]*	0.01	Sesquiterpenic ether
Humulene epoxide II	0.01	0.01	Sesquiterpenic ether
Unknown	0.01		Oxygenated sesquiterpene
α-Cadinol	tr	0.01	Sesquiterpenic alcohol
α-Bisabolol	0.01	0.03	Sesquiterpenic alcohol
Total identified	**99.56%**	**99.47%**	

*: Two or more compounds are coeluting on this column

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

tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid
Refractive index: 1.5060 ± 0.0003 (20 °C)

COMPLIANCE WITH ISO 11043:1998 (BASIL, METHYLCHAVICOL TYPE)

Compound	Min. Content	Max. Content	Observed Content	Complies?
1,8-Cineole	1	3.5	0.06	No
trans-β-Ocimene	0.9	2.8	0.02	No
Camphor	0.15	0.8	ND	No
Linalool	0.5	3	17	No
Terpinen-4-ol	0.2	0.6	ND	No
Methylchavicol	75	87	75.6	Yes
Methyleugenol	0.3	2.5	0.04	No
Refractive index	1.510	1.520	1.506	No

CONCLUSION

No adulterant, contaminant or diluent has been detected using this method. The oil does not comply with the ISO standard for methylchavicol-type basil oil, which is however common and possibly another chemotype.