

Analysis Jojoba organic Oil

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Date: December 18, 2017

TOTAL FATTY ACIDS METHYL ESTERS (FAMES)

Customer: Flowers Shining Everywhere Inc.

Sample identification: Jojoba Carrier Oil - Arizona - OI2017

Botanical source: *Simmondsia chinensis*

Internal code: 17L08-FSE4-2-CC

Analyst: Alexis St-Gelais, M. Sc.



Method: Simultaneous hydrolysis and methylation of oil sample using a mixture of heptane/methanol/toluene/1,2-dimethoxypropane/sulfuric acid. Injection of the upper phase on GC-FID on a BPX-5 column for quantification using the method PC-HV-6, with identification of the methyl esters by GC-MS.

Analysis date : December 11, 2017

Methyl Esters	R.T.	%	Types
(7Z)-Hexadecenoic acid?	10.44	0.11	Unsaturated
Palmitoleic acid	10.50	0.02	Unsaturated
Palmitic acid	10.78	0.60	Saturated
Tetradecenol isomer	11.18	0.13	Fatty alcohol
Hexadecenol isomer I	12.38	0.07	Fatty alcohol
Hexadecenol isomer II	12.44	0.19	Fatty alcohol
Linoleic acid	12.70	0.09	Unsaturated
Oleic acid	12.79	5.16	Unsaturated
cis-Vaccenic acid	12.85	0.40	Unsaturated
Stearic acid	13.09	0.02	Saturated
Oleyl alcohol	13.45	0.30	Fatty alcohol
Octadecadienol isomer	13.50	0.02	Fatty alcohol
Octadecadienol isomer II	13.57	0.04	Fatty alcohol
(11Z)-Eicosenol	14.62	13.79	Fatty alcohol
Gondoic acid	15.01	47.41	Unsaturated
(13Z)-Docosenol	16.67	14.48	Fatty alcohol
Docosenol isomer	16.71	0.79	Fatty alcohol
Cetelaidic acid?	16.92	0.23	Unsaturated
Erucic acid	16.97	10.29	Unsaturated
Behenic acid	17.20	0.15	Saturated
(15Z)-Tetracosenol	18.54	2.60	Fatty alcohol
Nervonic acid	18.80	1.24	Unsaturated
Lignoceric acid	19.10	0.25	Saturated
Total identified		98.40%	Saturated: 1.02% Unsaturated : 64.95% Fatty alcohols : 32.42%



CONCLUSION

The oil corresponds to the expected profile for jojoba oil, characterized by high amounts of gondoic and erucic acid and several typical fatty alcohols.

Checked and approved by :



Alexis St-Gelais, M. Sc., chimiste, 2013-174

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