

Date : May 20, 2022

CERTIFICATE OF ANALYSIS – TOTAL FATTY ACIDS METHYL ESTERS (FAMES)

SAMPLE IDENTIFICATION

Internal code : 22E06-PTH01

Customer identification : Jojoba - J30118R

Type : Vegetable oil & fats

Source : *Simmondsia chinensis*

Customer : Plant Therapy

ANALYSIS

Method: PC-MAT-010 - Fatty acids profiling of a vegetable oil or a plant by hydrolysis and derivatisation (FAMES).

Analyst : Sylvain Mercier, M. Sc., Chimiste 2014-005

Analysis date : May 20, 2022

Checked and approved by :

Sylvain Mercier, M. Sc., Chimiste 2014-005

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PHYSICOCHEMICAL DATA

Physical aspect: Bright yellow viscous liquid

Refractive index: 1.4663 ± 0.0003 (20 °C; method PC-MAT-016)

INTERNATIONAL JOJOBA EXPORT COUNCIL STANDARD FOR JOJOBA OIL

Compound	Min. %	Max. %	Observed %	Complies?
Palmitic acid		3.0	2.2	Yes
Behenic acid		1.0	0.1	Yes
Nervonic acid		3.0	0.7	Yes
C16:1		1.0	0.6	Yes
C20:1	65.0	80.0	71.2	Yes
C22:1	10.0	20.0	9.5	No
C18:1	5.0	15.0	14.3	Yes
Refractive index	1.4500	1.4700	1.4663	Yes

CONCLUSION

This sample marginally does not comply with the International Jojoba Export Council standard, but nonetheless features the expected fatty acids composition as described for this species.

ANALYSIS DATA

Fatty acids		Shorthand formula	R.T	R.I	%	Type
Common name	Systematic name					
Myristic acid	Tetradecanoic acid	C14:0	9.69	1395	0.20	SFA
Myristoleic acid	(9Z)-Tetradecenoic acid	C14:1 n-5 c	10.52	1472	0.09	MUFA
Palmitic acid	Hexadecanoic acid	C16:0	12.18	1598	2.20	SFA
Hypogeic acid	(7Z)-Hexadecenoic acid	C16:1 n-9 c	13.02	1653	0.58	MUFA
Margaric acid	Heptadecanoic acid	C17:0	13.94	1705	0.23	SFA
Stearic acid	Octadecanoic acid	C18:0	15.98	1802	0.09	SFA
Oleic acid	(9Z)-Octadecenoic acid	C18:1 n-9 c	17.34	1858	13.22	MUFA
cis-Vaccenic acid	(11Z)-Octadecenoic acid	C18:1 n-7 c	17.56	1867	1.08	MUFA
Linoleic acid	(9Z,12Z)-Octadecadienoic acid	C18:2 n-6 cc	19.57	1942	0.11	PUFA
Arachidic acid	Eicosanoic acid	C20:0	21.52	2008	0.32	SFA
α-Linolenic acid	(9Z,12Z,15Z)-Octadecatrienoic acid	C18:3 n-3 ccc	22.39	2038	0.33	PUFA
Gondoic acid	(11Z)-Eicosenoic acid	C20:1 n-9 c	23.12	2061	71.22	MUFA
Behenic acid	Docosanoic acid	C22:0	27.76	2212	0.12	SFA
Erucic acid	(13Z)-Docosenoic acid	C22:1 n-9 c	29.14	2263	9.50	MUFA
Nervonic acid	(15Z)-Tetracosenoic acid	C24:1 n-9 c	33.30	2465	0.70	MUFA
Total PUFA: 0.44%			Total identified 100.00%			
Total MUFA: 95.81%						
Total SFA: 3.17%						

Note: no correction factor was applied
R.T.: Retention time (minutes)
R.I.: Retention index
PUFA: Polyunsaturated fatty acid
MUFA: Monounsaturated fatty acid
SFA: Saturated fatty acid

