

Date : July 03, 2022

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

SAMPLE IDENTIFICATION

Internal code : 22F29-PTH01

Customer identification : Rosehip (Extra Virgin) - Turkey - 220373656

Type : Vegetable oil & fats

Source : *Rosa canina*

Customer : Plant Therapy

ANALYSIS

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

Analyst : Alexis St-Gelais, Ph. D., Chimiste 2013-174

Analysis date : July 01, 2022

Checked and approved by :

Alexis St-Gelais, Ph. D., Chimiste 2013-174

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PHYSICOCHEMICAL DATA

Physical aspect: Light orange liquid

Refractive index: 1.4769 ± 0.0003 (20 °C; method PC-MAT-016)

PC 003:2020 - PHYTOCHEMIA CRITERIA - ROSEHIP OIL (*ROSA CANINA*)

Compound	Min. %	Max. %	Observed %	Complies?
Stearic acid	1.7	3.7	2.4	Yes
α-Linolenic acid	16.4	32.7	16.3	No
Arachidic acid		2.6	0.7	Yes
Palmitic acid	1.7	6.7	5.1	Yes
Linoleic acid	39.5	55.7	49.6	Yes
C18:1 (Oleic+cis-vaccenic acids)	13.9	22.6	24.5	No

CONCLUSION

This sample features some very minor deviations from the reported compositions for *Rosa canina* vegetable oil in literature.¹⁻¹¹

REFERENCES

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ANALYSIS DATA

Fatty acids						
Common name	Systematic name	Shorthand formula	R.T	R.I	%	Type
Myristic acid	Tetradecanoic acid	C14:0	9.77	1396	0.06	SFA
Pentadecylic acid	Pentadecanoic acid	C15:0	10.94	1500	0.02	SFA
Palmitic acid	Hexadecanoic acid	C16:0	12.37	1604	5.05	SFA
Hypogeic acid	(7Z)-Hexadecenoic acid	C16:1 n-9 c	13.16	1653	0.03	MUFA
Palmitoleic acid	(9Z)-Hexadecenoic acid	C16:1 n-7 c	13.33	1663	0.08	MUFA
<i>cis</i> -Palmitvaccenic acid	(11Z)-Hexadecenoic acid	C16:1 n-5 c	13.55	1676	0.03	MUFA
Margaric acid	Heptadecanoic acid	C17:0	14.11	1707	0.05	SFA
<i>cis</i> -9-Heptadecenoic acid	(9Z)-Heptadecenoic acid	C17:1 n-8 c	15.23	1762	0.05	MUFA
Stearic acid	Octadecanoic acid	C18:0	16.43	1815	2.43	SFA
Petroselinic acid?	(6Z)-Octadecenoic acid	C18:1 n-12 c	17.31	1850	0.05	MUFA
Oleic acid	(9Z)-Octadecenoic acid	C18:1 n-9 c	17.75	1867	23.91	MUFA
<i>cis</i> -Vaccenic acid	(11Z)-Octadecenoic acid	C18:1 n-7 c	17.91	1873	0.58	MUFA
<i>cis,trans</i> -9,12-Octadecadienoic acid	(9Z,12E)-Octadecadienoic acid	C18:2 n-6 ct	19.36	1928	0.08	PUFA
<i>trans,cis</i> -9,12-Octadecadienoic acid	(9E,12Z)-Octadecadienoic acid	C18:2 n-6 tc	19.58	1936	0.03	PUFA
Linoleic acid	(9Z,12Z)-Octadecadienoic acid	C18:2 n-6 cc	20.01	1950	49.64	PUFA
γ -Linolenic acid	(6Z,9Z,12Z)-Octadecatrienoic acid	C18:3 n-6 ccc	21.72	2008	0.06	PUFA
Arachidic acid	Eicosanoic acid	C20:0	22.07	2020	0.72	SFA
α -Linolenic acid	(9Z,12Z,15Z)-Octadecatrienoic acid	C18:3 n-3 ccc	22.70	2040	16.33	PUFA
Paullinic acid	(13Z)-Eicosenoic acid	C20:1 n-7 c	23.51	2066	0.33	MUFA
Behenic acid	Docosanoic acid	C22:0	28.44	2228	0.23	SFA
Total PUFA: 66.04%			Total identified 99.76%			
Total MUFA: 25.05%						
Total SFA: 8.57%						

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

