

Certificate of Analysis

Millers Organics LLC

943 Alton St

Wisconsin Rapids Wisconsin 54495 United States

Sample Name:	Royal Oil	Eurofins Sample:	9165154
Project ID	MILLER_ORG-20200108-0001	Receipt Date	05-Dec-2019
PO Number	CVD	Receipt Condition	Ambient temperature
Sample Serving Size		Login Date	08-Jan-2020
Description	Miller Organics LLC 12-2-19	Date Started	08-Jan-2020
		Sampled	Sample results apply as received

Analysis	Result
Fat by Acid Hydrolysis	
Fat	100 g/100g
Fatty Acids Calculated as Triglycerides	
Saturated Fatty Acids (Acid Form)	6.60 g/100g
Total Cis Unsaturated Fatty Acids (Acid Form)	83.6 g/100g
Monounsaturated Fatty Acids (Acid Form)	54.5 g/100g
Polyunsaturated Fatty Acids (Acid Form)	29.1 g/100g
Trans Fatty Acids (Acid Form)	0.357 g/100g
Omega 3 Fatty Acids	9.95 g/100g
Omega 6 Fatty Acids	20.5 g/100g
Omega 9 Fatty Acids	54.1 g/100g
Total Fatty Acids	94.7 g/100g
4:0 Butyric	<0.070 g/100g
6:0 Caproic	<0.070 g/100g
8:0 Caprylic	<0.070 g/100g
10:0 Capric	<0.070 g/100g
12:0 Lauric	<0.070 g/100g
14:0 Myristic	<0.070 g/100g
14:1 Myristoleic	<0.070 g/100g
15:0 Pentadecanoic	<0.070 g/100g
15:1 Pentadecenoic	<0.070 g/100g
16:0 Palmitic	4.20 g/100g
16:1 Palmitoleic	0.179 g/100g
17:0 Heptadecanoic	<0.070 g/100g
17:1 Heptadecenoic	<0.070 g/100g
18:0 Stearic	1.82 g/100g
9c 18:1 Oleic	52.8 g/100g
18:2 Linoleic	20.5 g/100g
18:3 Gamma Linolenic	<0.070 g/100g
18:3 Alpha Linolenic	9.95 g/100g
18:4 Octadecatetraenoic	<0.070 g/100g
20:0 Arachidic	0.502 g/100g
20:1 Eicosenoic	1.15 g/100g
20:2 Eicosadienoic	<0.070 g/100g

* This analysis or component is not ISO accredited.

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Analysis

Result

Fatty Acids Calculated as Triglycerides

20:3 Eicosatrienoic (n3)	<0.070 g/100g
20:3 Homogamma Linolenic (n6)	<0.070 g/100g
20:4 Arachidonic (n3)	<0.070 g/100g
20:4 Arachidonic (n6)	<0.070 g/100g
20:5 Eicosapentaenoic	<0.070 g/100g
21:5 Heneicosapentaenoic	<0.070 g/100g
22:0 Behenic	0.250 g/100g
22:1 Erucic	<0.070 g/100g
22:2 Docosadienoic	<0.070 g/100g
22:3 Docosatrienoic	<0.070 g/100g
22:4 Docosatetraenoic	<0.070 g/100g
22:5 Docosapentaenoic (n3)	<0.070 g/100g
22:5 Docosapentaenoic (n6)	<0.070 g/100g
22:6 Docosahexaenoic	<0.070 g/100g
24:0 Lignoceric	0.135 g/100g
24:1 Nervonic	0.113 g/100g
Total 18:1 trans	<0.070 g/100g
Total 18:1 cis	55.5 g/100g
Total 18:2 trans	0.092 g/100g
Total 18:3 trans	0.281 g/100g

Vitamin E

Vitamin E Natural	24.9 IU/100g
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Moisture by M100_T100

Moisture	<0.40 g/100g
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Free Fatty acids as Oleic Acid *

Free Fatty Acids as Oleic	0.28 g/100g
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Method References

Testing Location

Fat by Acid Hydrolysis (FAT_AH_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

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Method References

Testing Location

Fat by Acid Hydrolysis (FAT_AH_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Food Products that are not Dairy, Egg or Cheese Products

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 922.06 and 954.02, AOAC INTERNATIONAL, Gaithersburg, MD, USA, (2005). (Modified)

Cheese and Cheese Products

Official Methods of Analysis of AOAC INTERNATIONAL (2005) 18th Ed., AOAC INTERNATIONAL, Gaithersburg, MD, USA, Official Method 933.05. (Modified)

Egg, Egg Products, and Mayonnaise

Official Methods of Analysis of AOAC INTERNATIONAL (2005) 18th Ed., AOAC INTERNATIONAL, Gaithersburg, MD, USA, Official Method 925.32. (Modified)

Fatty Acids Calculated as Triglycerides (FALT_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Official Method No. 996.06, Official Methods of Analysis of the AOAC INTERNATIONAL (modified), 19th Ed., AOAC INTERNATIONAL: Gaithersburg, Maryland (2012).

Official Methods and Recommended Practices of the AOCS, Official methods Ce 2b-11 (2011), Ce 1h-05 (2009), Ce 1j-07 (2013), Ce 2-66 (2009), The American Oil Chemists' Society, Champaign, IL (modified).

Free Fatty acids as Oleic Acid (FFA2_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Official Methods and Recommended Practices of the AOCS, Fifth Ed., Method Ca 5a-40, American Oil Chemists' Society, Champaign, Illinois (1997). (Modified)

United States Pharmacopeia, Thirty-Fifth Revision, <401 Fats & Fixed Oils>, USP Convention, Inc., Rockville, MD (2012).

For extraction: Official Methods of Analysis of the AOAC International, 18th Ed, (2005), AOAC International, Gaithersburg, MD. Official Method 983.23 (modified).

Moisture by M100_T100 (M100T100_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 925.09 and 926.08, AOAC INTERNATIONAL, Gaithersburg, MD, USA,(2005). (Modified).

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Method References

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Vitamin E (LCE1_S)

Food Integrity Innovation-Madison

3301 Kinsman Blvd Madison, WI 53704 USA

Speek, A.J., Schijver, J., and Schreurs, W.H.P., "Vitamin E Composition of Some Seed Oils as Determined by High-Performance Liquid Chromatography with Fluorometric Detection", *Journal of Food Science*, 50(1):121-124 (1985). (Modified).

Cort, W.M., Vincente, T.S., Waysek, E.H., and Williams, B.D., Vitamin E Content of Feedstuffs Determined by High-Performance Liquid Chromatographic Fluorescence", *Journal of Agricultural and Food Chemistry*, 31:1330-1333 (1983). (Modified).

McMurray, C.H., Blanchflower, W.J., and Rice, D.A., "Influence of Extraction Techniques on Determination of α -Tocopherol in Animal Feedstuffs", *Journal of the Association of Official Analytical Chemists*, 63(6): 1258-1261 (1980). (Modified).

Testing Location(s)

Released on Behalf of Eurofins by

Food Integrity Innovation-Madison

Edward Ladwig - Director

Eurofins Food Chemistry Testing US, Inc.
3301 Kinsman Blvd
Madison WI 53704
800-675-8375



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