



# MTC Industries, Inc.

Nutraaceuticals, Foodceuticals, and Pharmaceuicals

## CERTIFICATE OF ANALYSIS

<b>Product Name:</b>	Serenovate® Saw Palmetto Oil	<b>Batch No.:</b>	P0101-240617
<b>Manufacture Date:</b>	06/17/2024	<b>Expiration Date:</b>	06/16/2026
<b>Plant Origin:</b>	<i>Serenoa Repens</i>	<b>Part Used:</b>	Berries
<b>Extraction Solvent:</b>	Food grade CO2	<b>Extract Ratio:</b>	10:1

TEST ITEMS	SPECIFICATIONS	TEST RESULTS	METHODS
Appearance	Orange to Brown red clear oil	Brown, red clear oil	Visual
Odor	Characteristic	Complies	Organoleptic
Identification (HPTLC)	Positive reaction	Complies	USP<201>
Water	< 0.4%	0.1%	USP<921>
Specific Gravity (20°C)	0.8900- 0.9100	0.9058	USP<841>
Refraction Index (25°C)	1.4000-1.5000	1.4534	USP<831>
Saponification value (mg/g)	210-250	230.8	USP<401>
Acid value (mgKOH/g)	150.0-220.0	153.2	USP<401>
Peroxide value (meq/kg)	< 5.0 meq/kg	4.3	USP<401>
Iodine value (g/100g)	40-50 g/100g	40.7	USP<401>
Arsenic (As)	< 1.0ppm	Not Detected	USP<233>/ICP-MS
Lead (Pb)	< 0.5ppm	Not Detected	USP<233>/ICP-MS
Mercury (Hg)	< 0.1ppm	Not Detected	USP<233>/ICP-MS
Cadmium (Cd)	< 0.5 ppm	Not Detected	USP<233>/ICP-MS
Pesticides residues	Meets the requirements	Complies	USP <561>
<b><u>Assay: (by GC)</u></b>			
Total Fatty Acids	>85.0%	90.55%	USP<621>/GC
Long-chain alcohols	0.15-0.35%	0.217%	USP<621>/GC
Total Sterols	0.2%- 0.4%	0.368%	USP<621>/GC
β-sitosterol	> 0.10%	0.252%	USP<621>/GC
<b><u>Ratio of Lauric acid to related fatty acids:</u></b> (According USP <Saw Palmetto Extract>, The range for ratios of the concentration of lauric acid to the concentration of the respective fatty acid are in the table below.)			
Lauric acid	28%-32%	Ratio ----- (Value 29.3%)	
Caproic acid	9.0-40	Ratio 18.43 (Value 1.59%)	
Caprylic acid	8.5-17.5	Ratio 10.77 (Value 2.72%)	
Capric acid	9.0-16	Ratio 13.95 (Value 2.10%)	
Myristic acid	2.2-2.8	Ratio 2.59 (Value 11.30%)	
Palmitic acid	2.8-3.9	Ratio 3.62 (Value 8.10%)	
Stearic acid	13-20	Ratio 17.44 (Value 1.68%)	





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Oleic acid	0.60-1.15	Ratio 1.03 (Value 28.5%)
Linoleic acid	4.0-8.0	Ratio 6.31 (Value 4.64%)
Linolenic acid	35-60	Ratio 47.03 (Value 0.623%)
Total fatty acid		90.55
<b><u>Microbial</u></b>		
Total Plate Count	<1,000 cfu/g	Not Detected USP<2021>
Yeast and Mold	< 100 cfu/g	Not Detected USP<2021>
E. Coli	Negative	Not Detected USP<2022>
Salmonella	Negative	Not Detected USP<2021>



**Room Temperature Storage:** Store at Room Temperature. Avoid moisture and direct sunlight.

**Conclusion:** Conforms with specifications.

The information contained herein is to the best of our knowledge correct. The data outlined and the statements made are intended only as source of information. No warranties expressed or implied are made on the basis of this information. It is suggested that you evaluate the product on a laboratory scale prior to use in a finished product. The information contained herein should not be construed as permission for violation of patent rights

QA Prepared by: Zihan ye QC Approved by: [Signature] Date: 09/16/2024