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## CERTIFICATE OF ANALYSIS (COA)

<b>Product Name</b>	<b>MARULA OIL</b>
<b>Botanical Name</b>	Sclerocarya birrea
<b>Product Code</b>	PCO4052
<b>INCI Name</b>	Sclerocarya Birrea (Marula) Seed Oil

<b>Batch #</b>	40522311
<b>Manufacturing Date</b>	NOVEMBER 2023
<b>Best Before Date</b>	OCTOBER 2025

<b>Part Used</b>	Kernels
<b>Extraction Method</b>	Cold Pressed
<b>Quality</b>	100% Pure and Natural

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>
<b>Appearance</b>	Clear light yellow colored liquid	CONFORMS
<b>Odour</b>	Characteristic mild nutty odour	CONFORMS
<b>Refractive Index</b>	1.460 - 1.480 @ 20°C	1.472
<b>Specific Gravity (g/mL)</b>	0.905 - 0.930 @ 20°C	0.917
<b>Saponification Value (mgKOH/g)</b>	185 - 215	195
<b>Peroxide Value (meq O<sub>2</sub>/kg)</b>	Less than 10.0	CONFORMS
<b>Iodine Value (g I<sub>2</sub>/100g)</b>	60 - 80	71
<b>Acid Value (mgKOH/g)</b>	Less than 5.0	CONFORMS
<b>Solubility</b>	Soluble in cosmetic esters and fixed oils; Insoluble in water	CONFORMS

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### FATTY ACID COMPOSITION:

<u>FATTY ACID</u>	<u>C-CHAIN</u>	<u>SPECIFICATIONS (%)</u>	<u>RESULTS (%)</u>
Palmitic Acid	C16:0	9.00 – 12.00	10.00
Stearic Acid	C18:0	5.00 – 8.00	5.60
Oleic Acid	C18:1 (n-9)	70.00 – 78.00	74.90
Linoleic Acid	C18:2 (n-6)	4.00 – 7.00	6.90
Alpha-Linolenic Acid	C18:3 (n-3)	0.10 – 0.70	0.60
Arachidic Acid	C20:0	Maximum 1.00	0.40

<u>MICROBIAL ANALYSIS</u>	<u>SPECIFICATIONS</u>	<u>STANDARDS</u>	<u>RESULTS</u>
Aerobic Mesophilic Bacterial Count	< 100 CFU/g	ISO 21149	CONFORMS
Yeast and Mould	< 10 CFU/g	ISO 16212	CONFORMS
Candida albicans	ABSENT / 1g	ISO 18416	CONFORMS
Escherichia coli	ABSENT / 1g	ISO 21150	CONFORMS
Pseudomonas aeruginosa	ABSENT / 1g	ISO 22717	CONFORMS
Staphylococcus aureus	ABSENT / 1g	ISO 22718	CONFORMS

<u>HEAVY METAL TESTS</u>	<u>SPECIFICATIONS</u>	<u>STANDARDS</u>	<u>RESULTS</u>
Lead: Pb (mg/kg or ppm)	< 10 ppm	na	CONFORMS
Arsenic: As (mg/kg or ppm)	< 2 ppm	na	CONFORMS
Mercury: Hg (mg/kg or ppm)	< 1 ppm	na	CONFORMS

### STABILITY AND STORAGE:

Keep in tightly closed container in a cool and dry place, protected from sunlight. When stored for more than 24 months, quality should be checked before use.

**As it is electronically generated document, hence no signature required.**

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