

### CERTIFICATE OF ANALYSIS (COA)

Product Name	BATANA OIL
Botanical Name	Elaeis oleifera
INCI Name	Elaeis Oleifera Kernel Oil

Part Used	Kernel
Extraction Method	Cold Pressed and Fractionated
Quality	100% Pure and Natural

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULT</u>
Appearance	Pale greenish brown to amber brown colored liquid	CONFORMS
Odour	Characteristic mild odour	CONFORMS
Refractive Index	1.450 - 1.490 @ 20°C	1.466
Specific Gravity (g/mL)	0.890 - 0.940 @ 20°C	0.928
Saponification Value (mgKOH/g)	175 - 210	191
Peroxide Value (meq O <sub>2</sub> /kg)	Less than 10.0	CONFORMS
Free Fatty Acids (% oleic)	Less than 2.0	CONFORMS
Iodine Value (g I <sub>2</sub> /100g)	90 - 120	CONFORMS
Moisture (%)	Maximum 0.1	CONFORMS
Solubility	Soluble in cosmetic esters and fixed oils; Insoluble in water	CONFORMS

### **FATTY ACID COMPOSITION:**

<b>FATTY ACID</b>	<b>C-CHAIN</b>	<b>SPECIFICATIONS (%)</b>	<b>RESULTS</b>
Lauric Acid	<u>C12:0</u>	<u>3.00 - 7.00</u>	<u>5.40</u>
Myristic Acid	<u>C14:0</u>	<u>2.00 - 5.00</u>	<u>2.80</u>
Palmitic Acid	<u>C16:0</u>	<u>6.00 - 14.00</u>	<u>8.30</u>
Stearic Acid	<u>C18:0</u>	<u>2.00 - 6.00</u>	<u>3.70</u>
Oleic Acid	<u>C18:1 (n-9)</u>	<u>45.00 - 65.00</u>	<u>50.40</u>
Linoleic Acid	<u>C18:2 (n-6)</u>	<u>22.00 - 32.00</u>	<u>27.40</u>
Alpha-Linolenic Acid	<u>C18:3 (n-3)</u>	<u>Maximum 2.00</u>	<u>0.90</u>

<b>MICROBIAL ANALYSIS</b>	<b><u>SPECIFICATIONS</u></b>	<b><u>STANDARDS</u></b>	<b><u>RESULTS</u></b>
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

<b><u>HEAVY METAL TESTS</u></b>	<b><u>SPECIFICATIONS</u></b>	<b><u>STANDARDS</u></b>	<b><u>RESULTS</u></b>
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

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