

### CERTIFICATE OF ANALYSIS (COA)

Product Name	MANGOSTEEN OIL
Botanical Name	Garcinia mangostana
CAS #	90045-25-3
EINECS #	289-884-9
INCI Name	Garcinia Mangostana Seed Oil

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

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>
Appearance	Light yellow liquid	CONFORMS
Odour	Characteristic mild odour	CONFORMS
Refractive Index	1.450 - 1.490 @ 20°C	1.467
Specific Gravity (g/mL)	0.900 - 0.940 @ 20°C	0.922
Saponification Value (mgKOH/g)	170 - 200	191
Peroxide Value (meqO <sub>2</sub> /kg)	Less than 4.0	0.29
Iodine Value (g I <sub>2</sub> /100g)	65 - 90	86.92
Free Fatty Acids (% oleic)	Less than 1.0	0.06
Solubility	Soluble in cosmetic esters and fixed oils; Insoluble in water	CONFORMS

### FREE ACID COMPOSITION

FATTY ACID	C-CHAIN	SPECIFICATIONS (%)	RESULTS (%)
Palmitic Acid	C16:0	2.00 – 12.00	4.17
Stearic Acid	C18:0	2.00 – 16.00	2.920
Oleic Acid	C18:1 (n-9)	45.00 – 85.00	82.46
Linoleic Acid	C18:2 (n-6)	6.00 – 18.00	8.66

MICROBIAL ANALYSIS	<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

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