

CERTIFICATE OF ANALYSIS (COA)

Product Name	CRANBERRY SEED OIL
Botanical Name	Vaccinium macrocarpon
CAS #	91770-88-6
EINECS #	294-875-8
INCI Name	Vaccinium Macrocarpon (Cranberry) Seed Oil

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

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULT</u>
Appearance	Greenish golden colored liquid	CONFORMS
Odour	Characteristic slightly fruity odour	CONFORMS
Refractive Index	1.465 - 1.485 @ 20°C	1.475
Specific Gravity (g/mL)	0.915 - 0.930 @ 20°C	0.939
Saponification Value (mgKOH/g)	180 - 200	214
Peroxide Value (meq O ₂ /kg)	Less than 10.0	CONFORMS
Iodine Value (g I ₂ /100g)	150-190	172
Free Fatty Acids (% oleic)	Less than 1.5	0.1
Acid Value (mgKOH/g)	Less than 3.0	0.2
Solubility	Soluble in cosmetic esters and fixed oils; Insoluble in water	CONFORMS

FATTY ACID COMPOSITION:

FATTY ACID	C-CHAIN	SPECIFICATIONS (%)	RESULTS
Palmitic Acid	<u>C16:0</u>	<u>3.00 – 6.00</u>	<u>3.90</u>
Stearic Acid	<u>C18:0</u>	<u>0.50 – 2.00</u>	<u>0.90</u>
Oleic Acid	<u>C18:1 (n-9)</u>	<u>20.00 – 25.00</u>	<u>23.50</u>
Linoleic Acid	<u>C18:2 (n-6)</u>	<u>35.00 – 45.00</u>	<u>36.60</u>
Alpha-Linolenic Acid	<u>C18:3 (n-3)</u>	<u>22.00 – 35.00</u>	<u>33.90</u>

<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

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