

**CERTIFICATE OF ANALYSIS (COA)**

Product Name	BLACK PEPPER ESSENTIAL OIL
Botanical Name	Piper nigrum
CAS #	8006-82-4 ; 84929-41-9
EINECS #	2845
INCI Name	Piper Nigrum (Black Pepper) Seed Oil

Part Used	Dried Peppercorn Fruit
Extraction Method	Steam Distilled Essential Oil
Quality	100% Pure and Natural
Note Classification	Middle to Top Note

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>
Appearance	Colorless to pale yellow green colored liquid	CONFORMS
Odour	Dry-woody, warm, spicy aroma with subtle floral and fruit notes, reminiscent of ground black pepper	CONFORMS
Refractive Index	1.450 to 1.490 nD	1.468
Specific Gravity (g/mL)	0.8300 to 0.8900 g/cm <sup>3</sup>	0.850
Optical Rotation (°)	- 12° to +8°	CONFORMS
Solubility	Soluble in alcohols and fixed oils; Insoluble in water	CONFORMS

<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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A-004, New Highway Park E-3 CHSL, Kandivali (E), Mumbai 400 101.

Tel: +91 2870 1974 | 750689 1975 | Email: essentialoilsofindia@gmail.com | www.essentialoilsofindia.com