



Certificate of Analysis

PIPER NIGRUM (BLACK PEPPER) SEED OIL

Product code	: BLPEO010
Sample designation	: Black Pepper Essential Oil
Botanical name	: Piper nigrum
CAS#	: 8006-82-4 ; 84929-41-9
FEMA#	: 2845
EINECS#	: 284-524-7
Lot number	: 10202306
Geographic origin	: India
Type of culture	: Organic
Part of the plant used	: Dried peppercorn fruit
Extraction method	: Steam distillation
Manufacturing date	: June 2023
Re-test date	: May 2026



ORG/SC/2202/001041

Sensory Check

Feature	Reference	Result
Appearance:	Colorless to pale yellow green colored liquid	meets
Fragrance:	Dry-woody, warm, spicy aroma with subtle floral and fruit notes, reminiscent of ground black pepper	meets
Color:	Colorless to pale yellow green	meets
Note classification:	Middle to Top Note	

Analytical Check

Properties	Specifications	Results
Refractive index	1.455 - 1.495 @ 20°C	1.469
Specific gravity (g/mL)	0.850 - 0.890 @ 20°C	0.873
Optical Rotation (°)	-20° to +4°	Conforms
Solubility	Soluble in alcohols and fixed oils Insoluble in water	Conforms
Allergens	Limonene CAS No. 5989-27-5 Linalool CAS No. 78-70-6	23.0% 1.0%

Microbial Analyses	Specifications	Standard	Results
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 12718	Conforms

Heavy Metal Test	Specifications	Standards	Results
Lead: Pb (mg/kg or ppm)	< 10 ppm	n/a	Conforms
Arsenic: As (mg/kg or ppm)	< 2 ppm	n/a	Conforms
Mercury: Hg (mg/kg or ppm)	< 1 ppm	n/a	Conforms

Stability and Storage

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

As this is electronically generated document, hence no signature required.

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