

CERTIFICATE OF ANALYSIS

Product Name	Hops Essential Oil
Botanical Name	Humulus lupulus
Product Code	PEO1087
CAS #	8007-04-3 ; 8060-28-4
INCI Name	Humulus Lupulus (Hops) Oil

Batch #	10872312
Manufacturing Date	DECEMBER 2023
Best Before Date	NOVEMBER 2026

Part Used	Cones
Extraction Method	Steam Distilled Essential Oil
Quality	100% Pure and Natural

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>
Appearance	Colorless to greenish-yellow liquid	CONFORMS
Odour	Woody, floral, herbaceous odour	CONFORMS
Refractive Index	1.470 - 1.494 @ 20°C	1.486
Specific Gravity (g/mL)	0.825 - 0.926 @ 20°C	0.875
Optical Rotation (°)	-2.5° to +2.5°	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

Disclaimer: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is to be the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability & completeness of such information for his own particular use.

<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

STABILITY AND STORAGE:

Keep in tightly closed container in a cool and dry place, protected from sunlight. When stored for more than 36 months, quality should be checked before use.

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

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