

## CERTIFICATE OF ANALYSIS (COA)

<b>Product Name</b>	<b>BLACK SPRUCE ESSENTIAL OIL</b>
<b>Botanical Name</b>	Picea mariana
<b>Product Code</b>	PEO1021
<b>CAS #</b>	8008-80-8 ; 91722-19-9
<b>FEMA #</b>	3034
<b>EINECS #</b>	294-420-3
<b>INCI Name</b>	Picea Mariana (Black Spruce) Oil

<b>Batch #</b>	10212306
<b>Manufacturing Date</b>	JUNE 2023
<b>Best Before Date</b>	MAY 2025

<b>Part Used</b>	Needles
<b>Extraction Method</b>	Steam Distilled Essential Oil
<b>Quality</b>	100% Pure and Natural
<b>Note Classification</b>	Top to Middle Note

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>
<b>Appearance</b>	Colorless to pale yellow liquid	CONFORMS
<b>Odour</b>	Fresh, penetrating, pine forest-like aroma with balsamic, woody undertones	CONFORMS
<b>Refractive Index</b>	1.466 - 1.472 @ 20°C	1.470
<b>Specific Gravity (g/mL)</b>	0.900 - 0.930 @ 20°C	0.922
<b>Optical Rotation (°)</b>	-41° to -25°	CONFORMS
<b>Solubility</b>	Soluble in alcohols and fixed oils; Insoluble in water	CONFORMS

<b>Comments</b>	Odour quality is excellent
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<u>MICROBIAL ANALYSIS</u>	<u>SPECIFICATIONS</u>	<u>STANDARDS</u>	<u>RESULTS</u>
<b>Aerobic Mesophilic Bacterial Count</b>	< 100 CFU/g	ISO 21149	CONFORMS
<b>Yeast and Mould</b>	< 10 CFU/g	ISO 16212	CONFORMS
<b>Candida albicans</b>	ABSENT / 1g	ISO 18416	CONFORMS
<b>Escherichia coli</b>	ABSENT / 1g	ISO 21150	CONFORMS
<b>Pseudomonas aeruginosa</b>	ABSENT / 1g	ISO 22717	CONFORMS
<b>Staphylococcus aureus</b>	ABSENT / 1g	ISO 22718	CONFORMS

<u>HEAVY METAL TESTS</u>	<u>SPECIFICATIONS</u>	<u>STANDARDS</u>	<u>RESULTS</u>
<b>Lead: Pb (mg/kg or ppm)</b>	< 10 ppm	na	CONFORMS
<b>Arsenic: As (mg/kg or ppm)</b>	< 2 ppm	na	CONFORMS
<b>Mercury: Hg (mg/kg or ppm)</b>	< 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 24 months, quality should be checked before use.

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



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