



## Certificate of Analysis

### PICEA MARIANA (BLACK SPRUCE) NEEDLE OIL

Product code	: BLPEO01021
Sample designation	: Black Spruce Essential Oil
Botanical name	: Picea mariana
CAS#	: 8008-80-8 ; 91722-19-9
FEMA#	: 3034
EINECS#	: 294-420-3
Lot number	: 10212306
Geographic origin	: Canada
Type of culture	: Organic
Part of the plant used	: Needles
Extraction method	: Steam distillation
Manufacturing date	: June 2023
Re-test date	: May 2025



ORG/SC/2202/001041

#### Sensory Check

Feature	Reference	Result
Appearance:	Colorless to pale yellow liquid	meets
Fragrance:	Fresh, penetrating, pine forest-like aroma with balsamic, woody undertones	meets
Color:	Colorless to pale yellow	meets
Note classification:	Top to Middle Note	

#### Analytical Check

Properties	Specifications	Results
Refractive index	1.466 - 1.472 @ 20°C	1.468
Specific gravity (g/mL)	0.900 - 0.930 @ 20°C	0.921
Optical Rotation (°)	-41° to -25°	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 Citronellol CAS No. 106-22-9 Geraniol CAS No. 106-24-1	5.0% 1.0% 1.0% 0.10%

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.

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