

CERTIFICATE OF ANALYSIS (COA)

Product Name	DOUGLAS FIR NEEDLE ESSENTIAL OIL
Botanical Name	Pseudotsuga menziesii
CAS #	8050-89-3 ; 91771-64-1 ; 97926-19-7
EINECS #	294-957-3 ; 308-234-8
INCI Name	Pseudotsuga Menziesii (Douglas Fir) Oil

Part Used	Needles)
Extraction Method	Steam Distilled Essential Oil
Quality	100% Pure and Natural
Note Classification	Middle to Top Note, Fixative

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>	<u>RESULTS</u>
Appearance	Colorless to pale yellow green colored liquid	CONFORMS
Odour	Rich, soft, woody-balsamic, sweet Pine needle-like aroma	CONFORMS
Refractive Index	1.470 - 1.480 @ 20°C	1.474
Specific Gravity (g/mL)	0.860 - 0.869 @ 20°C	0.866
Optical Rotation (°)	-30° to -4°	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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