



TROPICAL BIOESSENCE SDN. BHD.

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CERTIFICATE OF ANALYSIS

Product : Peppermint Essential Oil
Botanical name : Mentha Piperita Leaf Oil (Origin India)
Product Code : PPTEO 01
Mfg Date : May 2025 Exp Date : May 2028 Batch no: 052525B
Method : Steam Distillation

TEST	RESULT	STANDARD
Appearance	Colourless to Yellow	Confirm
Odour	Minty	Confirm
Refractive index (25°C)	1.460	1.457 - 1.467
Specific gravity (25°C)	0.9018	0.900 - 0.916
Optical Rotation	-27.0°	-30.0° - -10.0°
Solubility	Complies	Soluble in Alcohol
Heavy Metals Content		
Arsenic (mg/kg)	N.D (<0.1ppm)	BP 2013, Appendix IID, ICP-AES
Lead (mg/kg)	N.D (<0.5ppm)	BP 2013, Appendix IID, ICP-AES
Cadmium (mg/kg)	N.D (<0.1ppm)	BP 2013, Appendix IID, ICP-AES
Mercury (mg/kg)	N.D (<0.1ppm)	BP 2013, Appendix IID, ICP-AES
Microbial Content		
<i>Pseudomonas aeruginosa</i>	Absent in 1g	BP 2013, Appendix XVIB, 1
<i>Staphylococcus aureus</i>	Absent in 1g	BP 2013, Appendix XVIB, 1
<i>Total Combined Yeast and Mould</i>	ND(<10) CFU/g	BP 2013, Appendix XVIB, 2
<i>Total Aerobic Microbial Count</i>	ND(<10) CFU/g	BP 2013, Appendix XVIB, 2
Assay by GC		
Limonene	2.70%	1.0 - 3.5%
1,8-Cineole	6.90%	3.5 - 8.0%
Menthone	26.10%	14.0 - 32.0%
Menthofuran	2.10%	1.0 - 8.0%
Isomenthone	3.70%	1.5 - 10.0%
Menthyl acetate	5.10%	2.8 - 10.0%
Isopulegol	0.10%	< 0.2%
Menthol	40.90%	30.0 - 55.0%
Pulegone	1.00%	< 3.0%
Carvone	0.05%	0.05%

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