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TROPICAL BIOESSENCE SDN. BHD.

CERTIFICATE OF ANALYSIS

Product : Clove Bud Essential oil
Botanical name : Syzygium aromaticum (Origin Madagascar)
Product Code : CLBEO 01
Mfg Date : May 2025 Exp Date : May 2028 Batch no: 052550B
Method : Steam Distillation

TEST	RESULT	STANDARD
Appearance	Yellowish	Confirm
Odour	Spicy and warm	Confirm
Refractive index (25°C)	1.528	1.525 - 1.535
Specific gravity (25°C)	1.038	1.032 - 1.075
Optical Rotation	-1.1°	-0.7° - +1.5°
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		
Eugenol	75.00%	65.00 - 78.00%
B-Caryophyllene	14.00%	10.00 - 18.00%
Eugenyl acetate	7.00%	2.00 - 9.00%

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