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**TROPICAL BIOESSENCE SDN. BHD.**

## CERTIFICATE OF ANALYSIS

Product : Ylang-ylang Essential oil  
Botanical name : Cananga odorata flower Oil (Origin Madagascar)  
Product Code : YLEO 01  
Mfg Date : May 2025 Exp Date : May 2028 Batch no: 052543B  
Method : Steam Distillation

TEST	RESULT	STANDARD
Appearance	Pale to Dark Yellow	Confirm
Odour	Floral, spicy	Confirm
Refractive index (25°C)	1.507	1.501 - 1.512
Specific gravity (25°C)	0.93	0.918 - 0.933
Optical Rotation	-40.0°	-38.0° - -68.0°
Solubility	Complies	Soluble in Alcohol
<b>Heavy Metals Content</b>		
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
<b>Microbial Content</b>		
<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
<b>Assay by GC</b>		
d-Germacrene	26.00%	20.0 - 35.0%
α-Farnesene	19.00%	15.0 - 25.0%
b-Caryophyllene	13.50%	10.0 - 25.0%
Linalool	9.50%	5.0 - 10.0%
Geranyl acetate	8.55%	5.0 - 10.0%

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