

CERTIFICATE OF ANALYSIS (COA)

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|----------------|-------------------------------------|
| Product Name | TAMANU (FORAHA) OIL |
| Botanical Name | Calophyllum inophyllum |
| CAS # | 241148-25-4 ; 223748-12-7 |
| EINECS # | - |
| INCI Name | Calophyllum Inophyllum (Tamanu) Oil |

| | |
|-------------------|-----------------------|
| Part Used | Nut Kernels |
| Extraction Method | Cold Pressed |
| Quality | 100% Pure and Natural |

| <u>PROPERTIES</u> | <u>SPECIFICATIONS</u> | <u>RESULTS</u> |
|---|--|----------------|
| Appearance | Olive green colored slightly viscous liquid | CONFORMS |
| Odour | Characteristic nutty, green odour | CONFORMS |
| Refractive Index | 1.460 - 1.495 @ 20°C | 1.476 |
| Specific Gravity (g/mL) | 0.910 - 0.960 @ 20°C | 0.928 |
| Saponification Value (mgKOH/g) | 185 - 235 | 194 |
| Peroxide Value (meq O ₂ /kg) | Less than 10.0 | CONFORMS |
| Iodine Value (g I ₂ /100g) | 80 - 120 | 83 |
| Solubility | Soluble in cosmetic esters and fixed oils; Insoluble in water | CONFORMS |

FREE ACID COMPOSITION

| FATTY ACID | C-CHAIN | SPECIFICATIONS (%) | RESULTS (%) |
|----------------------|-------------|--------------------|-------------|
| Palmitic Acid | C16:0 | 10.00 - 18.50 | 11.10 |
| Stearic Acid | C18:0 | 11.00 - 20.00 | 11.40 |
| Oleic Acid | C18:1 (n-9) | 36.00 - 53.00 | 46.20 |
| Linoleic Acid | C18:2 (n-6) | 20.00 - 38.00 | 30.30 |
| Alpha-Linolenic Acid | C18:3 (n-3) | Maximum 1.0 | 0.40 |

| MICROBIAL ANALYSIS | <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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