

## CERTIFICATE OF ANALYSIS

### Indian Sandalwood Oil

**BATCH REFERENCE:** APISO-230513SD/SA

**CERTIFICATE DATE:** 25 October 2023

**PRODUCT:** Indian Sandalwood oil, (*Santalum album*)

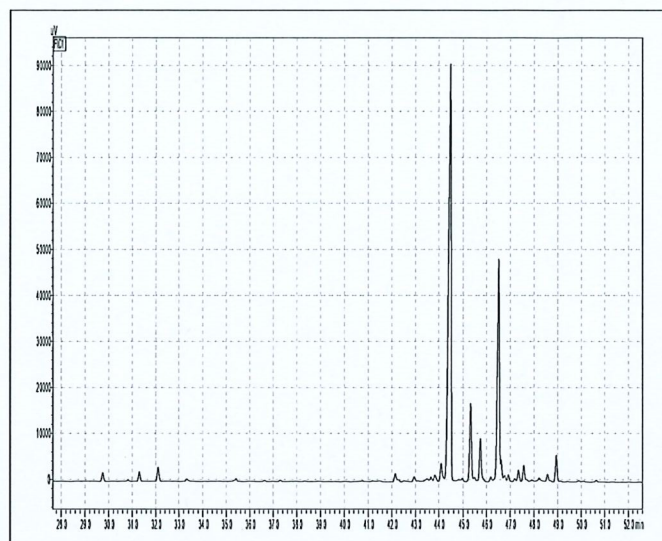
**INCI NAME:** Santalum Album (Sandalwood) Oil

**CAS #:** 8006-87-9

**PRODUCT GROUP:** 100% Pure Essential Oil

**METHOD:** Steam distillation

**APPEARANCE:** Clear, slightly viscous liquid, almost colourless to golden yellow.



**ORGANOLEPTIC:** The olfactory character of Quintis plantation-grown Indian Sandalwood oil is sweet, nutty and diffuse in the top notes. The lactonic, slight hay, woody and sweet heart notes complement the woody, slightly spicy base. The oil has a true sandalwood character, the nuttiness being sustained throughout the whole chord, and the dry-down is tenacious, sweet and woody.

#### PHYSICAL – CHEMICAL PROPERTIES:

Physical Parameters	Value	ISO Specification	ISO Method
Relative density at 20°C	0.974	0.968 - 0.983	ISO 279
Refractive index at 20°C	1.5073	1.5030 - 1.5090	ISO 280
Optical rotation at 20°C	-18.5	-21.0 to - 12.0	ISO 592
Solubility in 70% (v/v) ethanol at 20°C	3.7	Max 5 volumes	ISO 875
Ester value at 20°C	5.5	max 10.0	ISO 1242/ISO 709

**VOLATILES ELUCIDATION:** ISO Specification 3518 (Annex A)

**Operating parameters:** Shimadzu GC2010Plus with an AOC-20i Autosampler; Column: Rtx-1, 30m x 0.25mm x 0.25um, Carrier Gas: Hydrogen @ 67.2cm/sec; Detector: FID, 250.0°C; Temperature program: 70.0°C (10min), 2.0°C/min to 220.0°C (5min).

Parameter	% Concentration	ISO Specification	ISO Method
Z- $\alpha$ -santalol	46.7	41.0% - 55.0%	ISO 3518
trans- $\alpha$ -bergamotol	6.7	n/a	ISO 3518
epi- $\beta$ -santalol	3.7	n/a	ISO 3518
Z- $\beta$ -santalol	21.0	16.0% - 24.0%	ISO 3518

**NAME** Deborah Eaves

**SIGNATURE**



**TITLE** QA Associate

**DATE**

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