

CERTIFICATE OF ANALYSIS

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|-----------------------|----------------------------|
| Product Name | BABASSU OIL |
| Botanical Name | Orbignya oleifera |
| Product Code | PCO4030 |
| CAS # | 91078-92-1 |
| EINECS # | 293-376-2 |
| INCI Name | Orbignya Oleifera Seed Oil |

| | |
|---------------------------|----------------|
| Batch # | 40302209 |
| Manufacturing Date | SEPTEMBER 2022 |
| Best Before Date | AUGUST 2024 |

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

| <u>PROPERTIES</u> | <u>SPECIFICATIONS</u> | <u>RESULTS</u> |
|--|---|----------------|
| Appearance | Light yellow at room temperature; white soft fat at temperatures less than 20°C | CONFORMS |
| Odour | Characteristic mild odour | CONFORMS |
| Refractive Index | 1.450 - 1.490 @ 20°C | 1.465 |
| Specific Gravity (g/mL) | 0.905 - 0.915 @ 20°C | 0.911 |
| Saponification Value (mgKOH/g) | 240 - 260 | 247 |
| Free Fatty Acids (% oleic) | Less than 1.0 | CONFORMS |
| Moisture (%) | Less than 0.25 | CONFORMS |
| Melting Point (°C) | 25° - 38° | CONFORMS |
| Peroxide Value (meq O₂/kg) | Less than 5.0 | CONFORMS |
| Iodine Value (g I₂/100g) | 13 - 18 | 15 |
| Acid Value (mgKOH/g) | Less than 0.5 | CONFORMS |
| Solubility | Soluble in cosmetic esters and fixed oils; Insoluble in water | CONFORMS |

Shelf life is guaranteed for three years from the date of production if the product is stored in the unopened original container between 15°C - 30°C, protected from light. Because this material is sensitive to oxidation, it is saturated with nitrogen and sealed with nitrogen atmosphere for protection. If containers are opened for sampling, be sure to refill atmosphere with nitrogen. Containers that have been opened should be tested at least yearly to ensure potency. Although we believe the above information to be accurate based on the information available to Avena Lab, it is the responsibility of the customer and user of the material to perform its own investigation and due diligence prior to use to verify that the product purchased from Avena Lab meets their quality requirements and is appropriate for the use to which the product is to be put. The information provided above shall be considered effective only for the lot with which the information is being provided. Use and purchase of this material is subject to Avena Lab standard terms and conditions, which supersede any conflicting terms contained on Buyer's purchase order or any document or instrument supplied by Buyer.

FATTY ACID COMPOSITION:

| <u>FATTY ACID</u> | <u>C-CHAIN</u> | <u>SPECIFICATIONS (%)</u> | <u>RESULTS (%)</u> |
|-------------------|----------------|---------------------------|--------------------|
| Caprylic Acid | C8:0 | 2.00 – 11.00 | 5.90 |
| Capric Acid | C10:0 | 1.00 – 8.00 | 4.90 |
| Lauric Acid | C12:0 | 40.00 – 48.00 | 42.9 |
| Myristic Acid | C14:0 | 15.00 – 20.00 | 17.3 |
| Palmitic Acid | C16:0 | 7.00 – 11.00 | 8.90 |
| Stearic Acid | C18:0 | 1.00 – 11.00 | 4.90 |
| Oleic Acid | C18:1 (n-9) | 10.00 – 15.00 | 13.8 |
| Linoleic Acid | C18:2 (n-6) | 10.00 – 15.00 | 12.3 |

| <u>MICROBIAL ANALYSIS</u> | <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 |

STABILITY AND STORAGE:

Keep in tightly closed container in a cool and dry place, protected from sunlight. When stored for more than 24 months, quality should be checked before use.

As it is electronically generated document, hence no signature required.

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