ACTIVE INGREDIENTS

WHITESSENCE™

LIGHTENING CONCENTRATE

Decrease in melanin transfer to keratinocytes
- Lightening, unifying and anti-dark spot action
Whitesence™ is a strong natural lightening agent extracted from Asian nangka seeds. The specific proteins of Whitesence™ inhibit the transfer of melanin from melanocytes to keratinocytes. The decrease in the melanin quantity at the surface of the skin results in a clear and unified complexion.

NANGKA SEEDS

Nangka or jackfruit (Artocarpus heterophyllus) is a typical Asian tree belonging to Moraceae family. Available in markets across India, Thailand and Indonesia, its huge fruits are appreciated for their delicious pulp and can be eaten fresh or cooked. The large seeds contain a high level of unique proteins which have been concentrated in Whitesence™.

TARGETING THE MELANIN TRANSFER TO KERATINOCYTES

Color in the skin is the result of the production and distribution of melanin in the epidermis. Melanin is synthesized by melanocytes which are dendritic cells located in the basal layer of the epidermis. Pigments are produced in specialized vesicles called melanosomes. The pigments are transported by the dendrites for transfer to the neighbouring keratinocytes. Once inside the keratinocytes, the melanin is used to coat the cell nucleus giving color to the skin.

Nangka proteins, mainly jacalin and artocarpin, have a high capacity to inhibit melanin transfer. Concentrated in Whitesence™, they provide a significant lightening effect.

The ability of Whitesence™ to inhibit melanosome transfer was evaluated in vitro using fluorescent beads to mimic the role of melanosomes. Used at very low levels, Whitesence™ presents a strong inhibiting action of transfer (up to 25%) with a dose dependent effect.

![Melanosome transfer inhibition graph](image)
SIGNIFICANT RESULTS ON ASIAN SKIN AFTER 2 MONTHS OF TREATMENT

Chromameter measurements

The lightening action of a cream containing 2% Whitessence™ was evaluated on 21 Asian females (35-60 years old), after a period of 2 and 3 months of an application two times a day on cheeks. Non-treated forehead was used as control.

L*, a*, b* parameters were measured by chromametry and Individual Typological Angle (ITA°) was calculated: \( \text{ITA}° = \arctg \left( \frac{(L*-50)}{b*} \right) \times \left( \frac{180}{\pi} \right) \).

The luminance \( L^* \) represents the skin’s relative brightness from total darkness (\( L^*=0 \)) to absolute white (\( L^*=100 \)) and ITA° characterizes the skin color.

L* and ITA° are considered for the assessment of the lightening effect: the lighter the skin, the higher the \( L^* \) and ITA° values.

After 2 months of treatment, the significant increase in the ITA° (+14.5%) and the \( L^* (+2.5\%) \) values correlate with a significant decrease in skin color. After 3 months, the results are even better (respectively +15.2% and +2.8%).

Whitessence™ activity is amplified by the fact that a tanning effect has been observed on the control area due to the seasonal conditions. If compared to control, results on treated zone can be estimated as follows:

\[ \Delta \text{ITA}°: 23.8\%, \ \Delta L^*: 3.4\% \text{ after 2 months and } \Delta \text{ITA}°: 31.2\%, \ \Delta L^*: 4.1\% \text{ after 3 months.} \]

Self-assessment

After 3 months of a twice daily application of the cream containing 2% Whitessence™, volunteers agree with the following statements:

- Skin is lighter: 81%
- The intensity of the pigmented dark spots has decreased: 90.5%
- The pigmentation irregularities have faded: 76.2%
PRODUCT DESCRIPTION

INCI NAME
Artocarpus Heterophyllus Seed Extract (and) Maltodextrin (and) Disodium Phosphate (and) Sodium Phosphate

ECOCERT STATUS
Registered

APPEARANCE
White to beige powder

FORMULATION
Add below 40°C
Formulate with electrolytes compatible ingredients

OPTIMUM pH
6-8

DOSAGE
0.5-2%

APPLICATIONS
- Lightening skin care
- Unifying care
- Age spot treatment
- Ethnic skin care
- Lightening foundation
- Specific care: hands, neck opening

FEATURES AND BENEFITS

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nangka (jackfruit) seed extract</td>
<td>Specific content of jacalin and artocarpine</td>
</tr>
<tr>
<td>Inhibits melanin transfer to keratinocytes</td>
<td>Decrease in skin pigmentation</td>
</tr>
<tr>
<td>Clinically proven on Asian skin</td>
<td>Significant lightening effect after 2 months</td>
</tr>
<tr>
<td>Positive self-assessment</td>
<td>Lighter and more unified skin; reduction of age spots appearance</td>
</tr>
</tbody>
</table>

LIGHTENING NIGHT CREAM 7.060.01 C54

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Deionised Water Glycerin Dermosoft™ GMCY* Satiaxane CX 91 Biophilic™ H</td>
<td>Water Glycerin Glyceryl Caprylate Xanthan Gum Hydrogenated Lecithin (and) C12-16 Alcohols (and) Palmitic Acid</td>
</tr>
<tr>
<td>B</td>
<td>Sunflower Oil Hazel Nut Oil Beeswax Dermofeel™ Toco 70 Non GMO* Shea Butter</td>
<td>Helianthus Annuus (Sunflower) Seed Oil Corylus Avellana (Hazel) Seed Oil Beeswax Tocopherol (and) Helianthus Annuus (Sunflower) Seed Oil Butyrospermum Parkii (Shea) Butter</td>
</tr>
<tr>
<td>C</td>
<td>Deionised Water Whitessence™ Mamaku Vital Essence Nature PF</td>
<td>Water Artocarpus Heterophyllus Seed Extract (and) Maltodextrin (and) Disodium Phosphate (and) Sodium Phosphate Water (and) Glycerin (and) Cyathea Medullaris Leaf Extract</td>
</tr>
<tr>
<td>D</td>
<td>Potassium Sorbate</td>
<td>Potassium Sorbate</td>
</tr>
<tr>
<td>E</td>
<td>Relax 2020/2</td>
<td>Fragrance</td>
</tr>
</tbody>
</table>

pH: 5.0 - 5.5 - Viscosity (Rheo ELV8, Spindle 4, 6 rpm, 3 mn): n.a.

* Distributed in France by Lucas Meyer Cosmetics.

This brochure is not intended for consumers and neither this brochure nor any extract thereof shall be used in order to commercialize products to consumers. No drawing, photograph or other extract derived from this brochure shall be used by any person without our prior written approval. As well, no claim with respect to the ingredient referred to in this brochure shall be made by any person without our prior written approval, even though the claim is set forth in this brochure. The person using the ingredient referred to in this brochure in the formulation of finished products is solely responsible for ensuring that the use made of the ingredient, the finished products marketed to consumers, their packaging, labelling and advertising materials and the claims made with respect to the finished products and the ingredient comply with all applicable laws and regulations. We hereby disclaim any warranty of suitability of the ingredient referred to in this brochure for any purpose. Any prospective user of the ingredient shall himself determine the suitability of the ingredient for his intended use and, as the case may be, obtain the required regulatory approvals for the commercialization of his finished products.