## INGREDIENT PRODUCT INFORMATION FILE

### PRODUCT IDENTITY

<table>
<thead>
<tr>
<th>INCI Name</th>
<th>Bisabolol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Name</td>
<td>EREMANTHUS ERYTHROPAPPUS</td>
</tr>
<tr>
<td>Origin</td>
<td>Candeia Tree</td>
</tr>
<tr>
<td>Appearance</td>
<td>Transparent oily liquid. Colorless to clear yellow. Sweet woody scent.</td>
</tr>
<tr>
<td>CAS number</td>
<td>515-69-5; 23089-26-1</td>
</tr>
<tr>
<td>EINECS No.</td>
<td>245-423-3</td>
</tr>
<tr>
<td>IECIC</td>
<td>02888</td>
</tr>
<tr>
<td>Manufacturing Country of Origin</td>
<td>Brazil</td>
</tr>
<tr>
<td>Manufacturing Quality System</td>
<td>ISO 9001, EFICI - SGS, China Compliance, ANVISA AFE.</td>
</tr>
<tr>
<td>Shelf Life/ Storage</td>
<td>2 years from manufacture, if stored correctly. Store in a clean, dry, well ventilated warehouse away from odorous materials. Store at ambient temperature. Store away from heat, sparks, or other flame sources.</td>
</tr>
</tbody>
</table>

### COMPOSITION

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>INCI Name / IUPAC Name</th>
<th>Scientific Name</th>
<th>Concentration</th>
<th>Function</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>515-69-5; 23089-26-1</td>
<td>Bisabolol</td>
<td>EREMANTHUS ERYTHROPAPPUS</td>
<td>95,0 – 98,0%</td>
<td>Active Ingredient</td>
<td>Natural</td>
</tr>
<tr>
<td>Others bisabolol components</td>
<td></td>
<td></td>
<td>2,0 – 5,0%</td>
<td>Active Ingredient</td>
<td>Natural</td>
</tr>
</tbody>
</table>
**THE NATURAL BISABOLOL** is derived from the essential oil of the Candeia tree through an environmentally-friendly process of steam distillation and vacuum fractioning. **EREMANTHUS ERYTHROPAPPUS** Candeia is a tree native to the Atlantic Rainforest in Minas Gerais and Bahia states, at the southeast region of Brazil. Dense Candeia groves result from the natural regeneration in Serra da Mantiqueira and Espinhaço, a region with a highly modified habitat, opened to agriculture and mining centuries ago.

It has very high purity, of at least 95% of the active isomer of Alpha-Bisabolol, although some manufacturers claim synthetic Bisabolol is “nature-identical”, it is in fact quite different to the true natural product. Obtained from Farnesol by reaction with Perchloric Acid, Sulfonic Acid and Ketone, the synthetic is similar to a racemic mixture of two isomers of Alpha-Bisabolol, containing only 46% of the active levorotatory isomer.

The Candeia Bisabolol offered by Atina since 2005 is the only in the market that has been able to meet the stringent social and environmental certification standards set by the FSC. Since 2009, 100% of Atina’s production of Candeia Bisabolol has been certified as organic by Ecocert, which means that Atina is fully compliant with NOP/USDA standards.

Atina’s Bisabolol is the ideal choice for companies seeking the proven greater effectiveness of Natural Bisabolol, supported by guarantees of sustainable sourcing of this natural active ingredient. Uniquely, Atina’s sustained management of Candeia and true commitment to Brazil’s biodiversity, allow our clients to reinforce their own sustainability credentials by actively contributing to valorize and preserve the Atlantic Rainforest.

---

**APPLICATION**

Natural Alpha-Bisabolol is suitable for a wide range of cosmetics skin formulations, due to its anti-irritant and soothing effects, associated with anti-microbial and anti-oxidant benefits. It is a preferred active ingredient for protection against the recurring stresses of the environment on the skin. The most important biological activities of bisabolol are the anti-inflammatory, anti-irritant, anti-bacterial and non-allergic properties. Candeia - based Bisabolol is one of the most desired natural assets for sensitive skin formulations. This active ingredient is widely used in:

- Shaving preparations products: preshave lotions, aftershave and shaving cream .................................. 0.25 %
- Baby lotions, oils, powders, creams ..................... 0.5%
- Cleansing ................................................................. 0.25%
- Products for acne .................................................... 0.25 – 0.5%
- Suntan gels, creams and indoor tanning preparations ........................................ 0.1 - 1%
- Anti-aging products ............................................... 0.25 – 1%
- Deodorants (underarm) ................................................ 1%
- Hair Care application: hair conditioners, hair bleaches ......................................................... 0.1 – 0.5%
- Sun protection and post Sun products .......... 0.25 - 1%
- Makeup applications: mascara, foundations, lipstick, lip balm, make up bases, compact powder ........................................ 0.25 - 1%
- Treatment of damaged nails and other manicuring preparations .............................................. 0.1%

---

**ALFA BISABOLOL ACTIVITIES**

**EFFECT OF BISABOLOL ON THE SKIN: HYPERPIGMENTATION**

**ANTI-INFLAMMATORY ACTIVITY** Although (\(\alpha\)) -bisabolol, a natural monocylic sesquiterpene alcohol, is often used as a cosmetic soothing supplement, little is known about its mechanisms of anti-inflammatory effects.

Partner studies show that (\(\alpha\)) - bisabolol inhibited production of NO and PGE2 proinflammatory mediators in cells. In addition, (\(\alpha\)) - bisabolol reduced expressions of iNOS and COX-2 genes by inhibiting the NF-\(\kappa\)B and AP-1 signaling pathway. These partners finding suggests that (\(\alpha\)) - bisabolol may be used as both a soothing agent and for treatment of inflammatory diseases.

**DESPIGMENTANT ACTIVITY** Hyperpigmentation is the darkening of an area of skin generally due to the increase of melanin. Several factors such as inflammatory skin disorders, allergic contact and irritant contact dermatitis are the main cause of hyperpigmentation.

The increase of melanogenic enzyme activity or number of melanocytes may be associated with epidermal and dermal hyperpigmentation. It is known that the cAMP response element (CRE) is involved in the (\(\alpha\)) - melanocyte - stimulating hormone (\(\alpha\)- MSH) production. A partner study was conducted in order to determine the depigmentation effect of (\(\alpha\)) - bisabolol using two different assays:

- cAMP response element luciferase reporter assay and melanin assay. The results indicated that (\(\alpha\)) - bisabolol inhibited the CRE activation induced by (\(\alpha\)) - MSH. Similarly, the compound reduced the melanin content induced by (\(\alpha\)) - MSH.

---

**REFERENCES**

Guy P. P. Kamatsu • Alvaro M. Vilojen
A Review of the Application and Pharmacological Properties of a Bisabolol and a Bisabolol-Rich Oils
Inhibitory effects of (\(\alpha\)) -bisabolol on LPS-induced inflammatory response in RAW264.7 macrophages
Seungbeom Kim a, Eunsung Jang a, Jang-Hyun Kim b, Young-Ho Park c, Jongsung Lee a,*, Deokhoon Park a,*

---

**CERTIFICATES**

- ISO 9001:2008
- EFCCI (European Federation for Cosmetics Ingredients)
- Good Practices Manufacturing (SGS audit)
- FSC – Forest Stewardship Council and Ecocert – Organic Product
- AFE ANVISA – Pharmaceutical Ingredients & Actives
- Food and Drug Administration (FDA)
- Generally Regarded as Safe (GRA) status
- China Compliance