EVOIL® AST is a Refined Vegetable Oil composition enriched with other ingredients and specifically developed to enhance anti stretch activity. The composition helps to prevent and eliminate stretch marks and wrinkles caused by pregnancy, lactation, obesity, diets and dry skin.

EVOIL® AST is rich in omega 3 (α-Linolenic acid) and omega 6 (Linoleic acid), essential fatty acids, as well as omega-9 (oleic acid), holding excellent properties as skin emollient and moisturising agent.

Omega 3 fatty acids are important components of cellular and membrane lipids. Omega 6 is part of Ceramide I, which is the most important barrier substance in the horny layer, due to prevention of trans-epidermal water loss, thus raising moisture levels in skin. Moreover, high content of omega-9 fatty acid provides EVOIL® AST excellent properties as an emollient and, in addition, its high monounsaturated lipid contents make it outstandingly stable.

Furtherly, cosmetic products containing omega 3 and 6 as EVOIL® AST are the appropriate skin care for individuals suffering from neurodermitis as their skin generally shows a Ceramide I deficiency.

EVOIL® AST comprises also other beneficial substances for skin rejuvenation forming part of a complex system of unsaturated essential fatty acids:

- **Trans-retinoic acids:** provide extreme moisturizing, together with skin firming and stretch mark removal due to synergistic action with minerals, also present, helping skin to recover elasticity.

- **Omega 6 fatty acid:** high content (30%) in this essential fatty acid contributes to TEWL reduction (Trans-Epidermal Water Loss), resulting in better moisture retention, a key aspect to maintain a healthy skin.
- **Natural tocopherol (Vitamin E):** with an antioxidant action, tocopherol enhances the rejuvenating effect of EVOIL® AST and contributes to fight against free radical, involved in skin cancer process triggering.

- **Vitamins A, B1, B2, B6 and D:** The antioxidant action of this vitamin complex protect vital cell structures by neutralizing free radicals. Many studies have shown that they can help decrease the effects of psoriasis, erythema, and may help in reducing the risk of skin cancer.

Moreover, Vitamin A has a stimulating effect on cell proliferation, an action which finally results in a thickening of the epidermis thus improving the barrier function of the skin.

There are many studies on the activity of Vitamin A on skin. After daily application on an emulsion containing 1000 IU/ml of Vitamin A palmitate the epidermis was 50% thicker than placebo treated skin. In addition, an increase in collagen formation in the dermis was observed. (Figure below)

There is evidence that UV light has a strong effect on Vitamin A concentration in the skin. The regular use of Vitamin A containing cosmetics helps to stimulate the cell renewal process thus reducing the risk of photodamaged skin.

In the process of aging many aspects of skin structure are altered and the epidermis becomes thinner due to a slow-down in the metabolism of the skin. As a result, the skin loses part of its barrier function and, as a consequence of reduced water retention capacity; it often becomes dry, scaly or even cracked.
EVOIL® AST

By stimulating the cell renewal process, Vitamin A thickens the epidermis and thus improves the barrier function of the skin. This reduces the transepidermal water loss which has a positive effect on the symptom of dry and brittle skin. Vitamin A not only improves the barrier function of the skin, but also its appearance and, in particular, its elasticity\(^3\). The study was done to the temples of a group of 40 to 60 years old volunteers and measured the elasticity of the skin. Elasticity improved by 14% after two weeks and by over 22% after six weeks.

Natural Tocopherols in EVOIL® AST helps to prevent the premature ageing of the skin by absorbing free radicals formed both in the course of normal biological reactions and also from various external factors, such as oxygen, UV light from the sun or environmental aggressions. When the skin is attacked its lipids are damaged by peroxidation. Such impairment leads to changes in the structure of the skin. It becomes wrinkled and appears older\(^4\). Repeated application of Vitamin E to the skin reduces the number of sunburn cells formed as a consequence of UVB radiation.
EVOIL® AST

TECHNICAL DATA

Appearance: Oily liquid, pale yellow with minimum odour
Acidity index: ≤ 0.50 mg KOH /1 g
Peroxide value: ≤ 10.0 meq O2/Kg
Specific gravity: 0.910 - 0.915 g/mL
Saponification value: 185 - 195
Iodine value: 100 - 110
Lovibond: ca. 2.0R + 51Y

<table>
<thead>
<tr>
<th>Fatty Acid</th>
<th>Composition</th>
</tr>
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<tbody>
<tr>
<td>Palmitic acid</td>
<td>4.0 - 9.0 %</td>
</tr>
<tr>
<td>Oleic acid (Omega 9)</td>
<td>50 - 70 %</td>
</tr>
<tr>
<td>Linoleic acid (Omega 6)</td>
<td>20 – 30 %</td>
</tr>
</tbody>
</table>

APPLICATION

EVOIL® AST can be used in anti stretch treatment for mixed and regular skin types. Apply EVOIL® AST directly on the skin with a light massage motion until totally absorbed. Morning and evening daily applications are recommended.

EVOIL® AST is specially suited for healing and lighten minor to severe stretch marks and scars. Used on individuals with degenerative tissues and keloid scarring, it is optimum as a massage oil for those trying to prevent and reduce stretch marks.

EVOIL® AST may also be formulated into body and skin care products, such as creams and lotions as anti-stretch mark treatment, to help repairing scars and to maximize the firming, moisturizing body care products preventing the appearance of stretch marks. Application of EVOIL® AST will serve to either protect the skin from such damages or will help recovering a healthy, good looking body.
EVOIL® AST

OIL STABILITY INDEX (OSI)

The Oil Stability Index (OSI) was determined using a Rancimat instrument. The rapidity of oxidation of oil depends on the degree of unsaturation, the presence of antioxidants, and prior storage conditions. In the OSI analysis, the rate of oxidation is slow until resistance to oxidation is overcome. This time is known as the oxidation induction period and it is a tool to determine the useful life of the oil.

**EVOIL® AST OSI:** 22.45 hours (100 °C)

ISO 6886:2006
Animal and vegetable fats and oils
Determination of oxidation stability

**Conditions**
Sample amount 2.5 ± 0.01 g
Temperature 100°C ± 0.2°C
Gas flow 20 L/h
Vessel: 50 mL distilled water
Evaluation Conductivity
Induction time (tangent method)
Blue: determination at 100 °C
Red: determination at 110 °C

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