

## RETINOL CREAM URBAN

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### 100 % Pure Argan Oil

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Ecocert Certificate, extracted from the Argan tree kernel fruit (*Argania Spinosa*) using only mechanical cold pressure, being therefore a pure active ingredient, ecological cosmetic, chemical-free and deodorized.

#### **Argan oil is made up to 80% of essential fatty acids:**

- ✓ 50% linoleic acid, 15% alpha-linolenic acid, 12% oleic acid: Biological precursors of intracellular hormones such as prostaglandins (key regulators of different cellular systems, including all membranous exchanges). They stimulate intracellular oxygenation, improving the restoration of the hydro-lipidic film increasing the nutrient content of skin cells and ensuring the necessary skin moisture.
- ✓ 1% Arachidonic acid
- ✓ 3% Linolenic acid
- ✓ 5% Tocopherols (Vitamin E). The main representatives of this class of compounds found in Argan oil are alpha-tocopherol or vitamin E (5%), gamma-tocopherol (83%) and delta-tocopherol (12%) which are natural antioxidants and vitamin precursors.
- ✓ Ferulic acid: It is the compound found in greater proportion. It promotes blood circulation, thereby increasing the arrival of nutrients. Stimulates intracellular oxygenation, neutralizes free radicals and protects the connective tissues.
- ✓ Phytosterols: Delta-7-sterols are inhibitors of the 5-alpha-reductase enzyme, which converts testosterone into dihydrotestosterone (DHT), largely responsible for acne and hair loss.
- ✓ Squalene: Present in 25% of human lipids, by binding to the cell membrane, helps to eliminate toxins and neutralize free radicals.
- ✓ Lupeol: has anticancer properties and enhances proliferation of keratinocytes which produce keratin in hair, nails and skin.

All these elements give it high antioxidants, anti-inflammatory, re-structuring, regenerating and antiaging properties.



Restores skin and protects it from oxidation caused by free radicals.

**Mechanism of action:**

Polyunsaturated fatty acids decrease with age causing the skin to become dry and to lose elasticity.

These two causes are the major trigger of wrinkles.

Argan oil is composed by 80% of fatty acids, of which 8 are essential fatty acids, which cannot be synthesized by our body itself, including omega-6 fatty acid.

Omega 6 fatty is a polyunsaturated fatty acid (linoleic acid) found in high proportions in argan oil. The skin uses it as a nutrient, reconstituting the hydrolipid layer, increasing hydration and reducing the appearance of wrinkles.

Essential fatty acids fight dryness and lack in elasticity by stimulating intracellular oxygenation, and improving the restoration of the hydrolipidic film by increasing the nutrient content of skin cells. The skin gains flexibility, hydration and firmness, becoming stronger and younger.

These beneficial effects are enhanced by its high vitamin E content, which thanks to its antioxidant activity, it protects cell membranes from oxidation and loss of its barrier function by neutralizing free radicals, thus slowing down the skin aging process.

Argan Oil is an anti-free radical, preventing skin aging.

It also has a sebum regulating action, suitable for oily skin, non-comedogenic, it is quickly absorbed, leaving no greasy aspect and leaving the skin free from shiny patches.

All these components, gives Argan Oil high antioxidant, anti-inflammatory, re-structuring, regenerating and anti-aging properties. It restores the skin and protects it from free radicals induced oxidation.

### **Essential fatty acids:**

Essential fatty acids are polyunsaturated, "Polyunsaturated Fatty Acids", also known as PUFAs. They are absolutely necessary for our health, and cannot be synthesized by the body. PUFAs are involved in metabolic processes of great importance, such as control of blood pressure, lowering cholesterol, the regulation of inflammatory processes (are precursors of prostaglandins) and allergic reactions, or the constitution of the phospholipids of cell membranes, among others. As they're not synthesized by the body, they must be supplied from outside.

The stratum corneum, needs three types of lipids in order to achieve an effective barrier function:

Ceramides, Cholesterol and polyunsaturated fatty acids. When these lipids are regularly cohesive between keratinocytes, potentially harmful substances that touch the skin cannot penetrate the skin barrier. On the other hand, when there is a lack of PUFAs, the skin barrier becomes permeable.

Lack of PUFAs has as a direct result, a number of skin problems, such as:

- Dry, tight and uncomfortable skin
- Flaking
- The wounds take longer to heal
- Loss of hydration
- Erratic keratinization process
- Increase of the rate of mitosis (disruption of epidermal layers)
- Tendency to eczema and itching

Provide skin metabolism regulatory functions:

- ✓ Decreasing inflammation
- ✓ Keeping skin elasticity
- ✓ Stimulating healing and regeneration
- ✓ Regulating keratinization
- ✓ Decreasing the skin Evaporation Rate
- ✓ Keeping skin hydration

**ANTI-FREE RADICAL ACTION: DNA PROTECTION**

Free radicals are chemical agents endowed with a powerful oxidizing ability. They can have an exogenous (pollution, snuff, etc.) or endogenous origin (stress, cell respiration, etc.). Under normal conditions, the skin is able to maintain a balance between free radicals (both generated or penetrating from the outside), and our internal enzyme systems that neutralize them, but when an imbalance occurs, whatever their type and origin, the result is what is known as oxidative stress, the amount of free radicals produced exceeds the ability of cells to neutralize them, therefore, they begin to accumulate in the medium, attacking tissues and skin cells, causing accelerated aging. Free radicals attack specially cells membranes, causing their destruction. These membranes are the delicate support of our cells genetic map whose nucleus contains DNA. The integrity of this membranes protects DNA and life of our cells.

Argan oil acts in two ways to prevent the destruction of DNA: On the one hand, essential fatty acids act as reinforcement of the cell membrane. In addition, its composition rich in tocopherols, natural antioxidants, is able to restrain the chain reaction mechanism of formation of free radicals.

Delta-tocopherol, is the isomer of vitamin E with more antiradical activity. Precisely its vitamin E content allows it to be preserved better than other oils. Argan oil hydrates, oxygenates and regenerates intensely, protecting the skin from external aggressions, such as cold or sunlight. It is especially recommended for atopic, damaged, or sensitive skin as its anti-inflammatory properties soothes irritations and alleviates redness.

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## VITAMIN C

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Vitamin C, or L-ascorbic acid, acts as a cofactor for collagen synthesis. It has a high regenerating ability, by its collagen synthesis stimulating activity.

Vitamin C is essential for the proline hydroxylation, therefore in the development and maintenance of collagen integrity. In addition, vitamin C inhibits the synthesis of Extracellular Matrix Metalloproteinase enzymes of, enzymes which stimulates collagen degradation in the dermis.

Vitamin C's collagen stimulating properties provides it with wound healing properties, caused by trauma, cuts, burns, or surgery. It is also suitable for the formation of new tissues.

Vitamin C belongs to the group of water soluble vitamins, and like most of them, it is not stored in the body for a long period of time, but in small quantities which are eliminated through urine. For this reason, Vitamin C daily administration is important in order to provide sufficient antioxidant protection.

Its chemical structure is similar to that of glucose (in many mammals and plants, this vitamin is synthesized from glucose and galactose). All compounds which possess the biological activity of ascorbic acid are known as Vitamin C. We should note that the only active form of Vitamin C is L-Ascorbic Acid.

As Vitamin C is a water-soluble substance, it is rapidly eliminated from the organism. Our body tends to protect vital organs, so any vitamin deficiency is felt primarily in the skin (less vital organ), which explains the importance of its topical application.

## **Mechanisms of action of vitamin C**

The anti-aging action of vitamin C is exerted through several ways:

### **Synthesis and repair of dermal collagen**

Deficiency of ascorbic acid (AA) produces significant alterations in connective tissue, since Vitamin C is essential for collagen synthesis.

Vitamin C is essential for the transformation of proline in hydroxyproline and lysine in hydroxylysine (essential constituents of collagen). Consequently Vitamin C offers stability to the extracellular matrix.

The local increase of vitamin C means therefore significantly promote collagen production; therefore improved skin elasticity and greater resistance in wall capillaries are assessed.

### **2. Antioxidant activity**

Vitamin C protects cells from free radicals. From all the scientific publications regarding Vitamin C, the most interesting are those related to the photoprotective effect of ascorbic acid when topically applied.

In mouse and pig it showed that when ascorbic acid is applied before UV radiation exposure, the negative consequences it causes in the skin (erythema, histological changes, "burned cells", wrinkles ...) decreased significantly .

A study published by the Journal of Investigative Dermatology in May 1996, describes how topical application of vitamin C, vitamin E and Selenium protects rats skin cells from damage caused by exposure to UVB rays.

In parallel, the British Journal of Dermatology some years before, evidenced this protective effect of vitamin C, when used topically, on pig skin damaged by ultraviolet radiation.

The Spanish Journal of Physiology published a study showing how direct application of vitamin C protects, and thus prevents the aging in human skin cells in culture subjected to a strong oxidation stimulus with hydrogen peroxide.

One might think that its photoprotective effect was physical, that is to say, topical vitamin C behaves as a sunscreen, and however, its absorption spectrum has nothing to do with the emission of UV radiation. Later it was found that UV radiation produced a significant decrease in the levels of ascorbic acid in the skin.

All this goes to show that the UV light, after exhausting all the vitamin C present in the skin, cause an increase in free radicals, making manifest the neutralizing action of vitamin C.

### 3. Anti-inflammatory action

Vitamin C inhibits NFkB, which is responsible for the activation of a number of pro-inflammatory cytokines. Therefore, Vitamin C has a potential anti-inflammatory activity and can be used in conditions like acne vulgaris and rosacea. It can promote wound healing and prevent post-inflammatory hyperpigmentation.

### 4. Vitamin C as a whitening agent

When choosing a whitening agent, it is important to differentiate between substances that are toxic to the melanocyte and substances that interrupt the key steps of melanogenesis. Vitamin C falls into the latter category of depigmenting agents. Vitamin C interacts with copper ions at the tyrosinase-active site and inhibits action of the enzyme tyrosinase, thereby decreasing the melanin formation.

## ALOE VERA:

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Aloe juice is obtained from the pulp of its fleshy leaves by physical processes. It consists of a **complex mixture of more than 20 substances**, including mono and **polysaccharides, anthraquinones, enzymes, vitamins (A, B1, B2, B6 and B12), salicylic acid, saponins, sterols, and minerals.**

It's moisturizing, soothing, anti-inflammatory, anti-allergic and regenerative properties are well known.

**Fatty acids:** cholesterol, campesterol,  $\beta$ -sisosterol and lupeol. All have anti-inflammatory action. Lupeol also has antiseptic and analgesic properties.

It contains **phytohormones: auxins and gibberellins** that aid in wound healing and have anti-inflammatory action.

Aloe juice has been shown to **enhance the cellular structure of fibroblasts** and to **accelerate the process of collagen synthesis**.

It is an excellent moisturizer, so it captures atmospheric water by moisturizing in depth as it acts on the three layers of skin: epidermis, dermis, and hypodermis.

## **RETINOL**

Vitamin A is considered a star asset among existing anti-aging since it is a multifunctional ingredient and with important applications not only in anti-aging but also as a skin tone balancer that allows visible results at 4 weeks from the first use.

Aging (photoaging of the skin) is a complex process whose visible consequences: fine lines, wrinkles, hyperpigmentation, lack of firmness and softness, continue to be the key to meet the needs of consumers around the world.

The efficacy of retinol is well known and well documented. Discovered More than 80 years ago, it is still considered the gold standard in the cosmetics industry, being one of the best allies of women in their fight against aging.

Skin aging is a gradual process that results in multiple visible signs, such as fine lines and wrinkles, loss of skin elasticity, uneven skin tone or pigmentation and blemishes. Retinol has multiple benefits for the skin.

Scientific studies have shown that, at the topical level, in the dermis and epidermis, collagen production increases in the skin, stimulates the proliferation of keratinocytes and epidermal thickness, and inhibits tyrosinase activity.

The effects of retinol on the appearance of the skin are really impressive, visibly improves the appearance of fine lines and wrinkles, increases the firmness of the skin, tonicity and softness, and equals hyper-pigmentation and age spots.

- Anti-aging / anti-wrinkle effect: Stimulates the formation of collagen, repairing the dermal matrix. Increase cell turnover.
- Anti-acne effect: exfoliates and regenerates. Regulates keratinization by increasing cell turnover (preventing pores from clogging).
- Anti-stain effect: exfoliates and regenerates (by increasing cell turnover). Modulates the hyperactivity of melanocytes (spots)