

#### BIOCOSMETICS

Ingredients Information





#### ALFALFA EXTRACT OBTAINED BY ORGANIC FARMING

**Alfalfa**, obtained from organic farming, preserves the extra-cellular matrix. It protects and repairs the dermis by stimulating the synthesis of collagen I and by inhibiting the activity of metalloproteinases responsible for its deconstruction. The revitalised skin is once again radiant and the wrinkles are attenuated.

## **Description:**

Alfalfa (*Medicago sativa* L.) is a flowering plant in the pea family Fabaceae cultivated as an important forage crop. In the UK, Australia, South Africa and New Zealand, it is also known as lucerne, and as lucerne grass in south Asia. Alfalfa is a cool season perennial legume which can live more than twenty years, depending on variety and climate. The plant grows to a height of up to 1 metre and has a deep root system, sometimes stretching more than 4,5 metres. This makes it very resilient, especially to droughts.



Alfalfa plants

#### Constituents of alfalfa extract:

Alfalfa extract is rich in galactomannans. Galactomannans are polysaccharides consisting of a mannose backbone with galactose side groups.

## Properties of alfalfa extract:

Alafalfa extract is an retinol-like active ingredient. It protects and repairs the dermis by stimulating the synthesis of collagen I and by inhibiting the activity of metalloproteinases responsible for its deconstruction.

## **Cosmetic applications:**

Alfalfa extract is recommended for all types of anti-age prevention.



#### ARGANIA SPINOSA KERNEL OIL OBTAINED BY ORGANIC FARMING

**Argan oil** is an precious oil produced from the kernels of fruits of the argan tree (argania spinosa). All fruits grow 100% organically and are untreated. The oil is rich in polyunsaturated fatty acids and natural tocopherols. It is widely used by Morroccan women for skin hair and nail care and has been so for centuries. Argan oil is nourishing, regenerating and protective.

### **Description:**

The argan tree (Argania spinosa) is indigenous to South Morocco. Morocco's entire stock of argan trees has belonged to a "biosphere reserve" under the protection of UNESCO since 1998. It grows magnificent, acid soil countryside usually mountainous. The tree can live up to 150 or 200 years and is particularly resistant to the climatic conditions of this region thanks to its highly spread root system which allows it to draw water from a depth of more than 30 metres. It is also the last barrier against the advance of the desert. Its fruits contain a very hard kernel which contains one to three seeds from which a precious oil is extracted. An average of 33 kg of dry argan fruits harvested from 6 to 7 trees are needed to obtain 1 litre of oil.



Argan tree (argania spinosa)

## Constituents of argan oil:

Argan oil is rich in unsaturated fatty acids (80%), mainly oleic acid (43-49,1%) and linoleic acid (29,3-36,0%). Additionally it contains natural tocopherols and phytosterols.

# Properties of argan oil:

Argan oil helps to restore the hydro-lipidic film of the skin. The particularly high content of natural tocopherols gives the oil excellent anti-free radical and anti-stress activities. When applied to the skin argan oil penetrates rapidly without leaving an oily effect.

# **Cosmetic applications:**

Facial care (anti-free radical effect; anti-ageing effect; nourishing; sebum-regulating); body care (anti-stretchmarks), hair care, nail care.

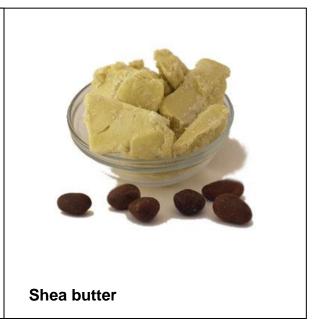


#### SHEA BUTTER OBTAINED BY ORGANIC FARMING

**Shea butter** is the fat from the seeds of the Karite Tree (Butyrospermum Parkii). It is obtained by pressing of selected seeds, boiling water, reap the fat layer and subsequent gentle product refining (deacidifying, bleaching, vapours). The result is a high-purity, very stable to oxidation, light greyish to white quality of firm consistency.

### **Description:**

The 15 m high tropical tree is found in wild and cultivated in the Sudan, as well as in West Africa (Ghana, Nigeria, Mali). The seed is reminiscent of a horse chestnut and has 45-48% fat, 10% protein and 25 - 30% carbohydrates.



#### Constituents of shea butter:

Shea butter is rich in cosmetically valuable ingredients such as phytosterols, wax esters, tocopherols, antioxidative ingredients like catechins and Gallic acid and skinfriendly fatty acids. It has a high content in unsaponifiables, first of all the mentioned phytosterols (including Campesterol, Stigmasterol, β-sitosterol and α-Spinosterol), Triterpenes (cinnamic acid esters, α- and β-Amyrin, Parkeol, Butyrospermol and Lupeol) and tocopherols.

## **Properties of shea butter:**

Shea butter increases the moisture content of the skin and has a moisturizing, soothing and smoothing effect. Its content of unsaponifiables strengthens the lipid barrier of the stratum corneum. Shea butter absorbs rapidly into the skin without leaving a greasy feeling.

### **Cosmetic applications:**

Shea Butter melts at skin temperatures, making it ideal for lip and body balms as well as bar soaps, lotions and skin creams.



### OAT (AVENA SATIVA) KERNEL EXTRACT, OBTAINED BY ORGANIC FARMING

Tensor ingredient based on a purified fraction of branched natural polyoses obtained from oats produced by organic farming. This very-high-molecular weight network of complex sugars linked by intra- and inter-chains hydrogen bonds adheres to the surface of the skin in a continuous and cohesive biological "lifting" film.

### **Description:**

The oats (Avena) are a genus of 10-15 species of true grasses. They are native to Europe, Asia and northwest Africa. One species is widely cultivated elsewhere, and several have become naturalized in many parts of the world. All oats have edible seeds, though they are small and hard to harvest in most species.



Oat (avena sativa) panicles

#### Constituents of oat kernel extract:

Linear chaines of polyose molecules.

## **Properties of oat kernel extract:**

Oat kernel extract presents an immediate tensor effect, proven instrumentally and sensorially.

## Cosmetic applications:

Oat kernel extract is recommended for all anti-age cosmetic formulas to remodel, retone and smooth the skin.



#### ALPINE PLANT EXTRACT FOR SKIN LIGHTENING

Alpine plant extract contains Mallow (Malva Sylvestris) extract, Peppermint (Mentha Piperita) leaf extract, Primula Veris extract, Alchemilla Vulgaris extract, Veronica Officinalis extract, Melissa Officinalis leaf extract and Achillea Millefolium extract. The plants were selected for their anti-tyrosinase-inhibiting capacity. In-vitro, ex-vivo and in-vivo test show, that the alpine plant extract can brighten and even skin tone and also reduce the colour intensity of age spots.

### **Description:**

Melanins are pigments which are primarily responsible for the colour of skin and hair. These pigments are produced by specific cells called melanocytes in the basal layer of the dermis. The initial step of melanin biosynthesis is catalyzed by an enzyme, tyrosinase, with patricipation of Cu2+cations. Tyrosinase is first oxidized into dopa, then further oxidized into dopaquinone. The efficient inhibition of tyrosinase interrupts the melanogenesis reaction chain. Today many developments target efficient and fast enzyme-blocking properties without any side effects.



Flora typical of the Alpine Region of the Alps

## Constituents of the alpine plant extract:

Mallow (malva sylvestris) extract, Peppermint (mentha piperita) leaf extract, Primula veris extract, Alchemilla vulgaris extract, Veronica officinalis extract, Melissa officinalis leaf extract and Achillea millefolium extract.

## Properties of the alpine plant extract:

Skin lightening activity, reduction of age spots colour intensity, evening of skin tone.

## **Cosmetic applications:**

All types of skin lightening/brighteners and anti age-spots formulations.



## COCONUT (COCOS NUCIFERA) OIL OBTAINED BY ORGANIC FARMING

Coconut oil, also known as coconut butter, is a tropical oil with many applications. Our coconut oil is a rarity: it is completely natural and contains all important fat-soluble substances and above all its characteristic aroma. Coconut oil constitutes seven percent of the total export income of the Philippines, the world's largest exporter of the product.

### **Description:**

The Coconut Palm (Cocos nucifera) is a member of the Family Arecaceae (palm family). It is the only species in the genus Cocos, and is a large palm, growing to 30 m tall, with pinnate leaves 4-6 m long, pinnae 60-90 cm long; old leaves break away cleanly leaving the trunk smooth. The term coconut refers to the fruit of the coconut palm.

The coconut palm is grown throughout the tropical world, for decoration as well as for its many culinary and non-culinary uses; virtually every part of the coconut palm has some human use.



#### Constituents of Coconut oil:

Coconut oil consists of more than 90% saturated fat, along with a few unsaturated fatty acids. The oil is chiefly composed of lauric acid (ca. 47-50 %), myristic acid (ca.19 %), caprylic acid (ca. 6 %) capric acid (ca. 6 %) and palmitic acid (ca. 10 %). Its only monounsaturated fatty acid is oleic acid (ca. 10%) while its only polyunsaturated fatty acid is linoleic acid (ca. 1-2%). Additionally coconut oil includes ca.2 mg/100 g tocopherols.

## Properties of the oil:

Coconut oil is excellent as a skin moisturiser and softener.

## Cosmetic applications:

Coconut oil plays a particularly important part in the cosmetics industry as an ointment base, in sunscreens and in body care products.

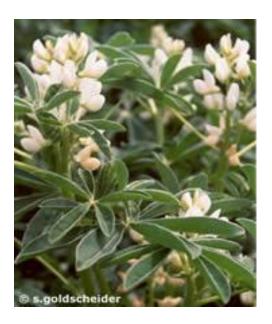


#### HYDROLYZED LUPIN PROTEIN OBTAINED BY ORGANIC FARMING

**Hydrolyzed lupin protein** is an active ingredient, obtained from sweet white lupin. It is rich in low molecular weight glutamined peptides and in oligosaccharides. Hydrolyzed lupin protein favors the synthesis of epidermal proteins and lipids and improves the barrier function of the skin.

### **Description:**

Lupinus albus, commonly known as the white lupin, is a member of the genus Lupinus in the family Fabaceae. It is a traditional pulse cultivated in the Mediterranean region. The white lupin is annual, more or less pubescent plant, 30 - 120 cm high. It occurs in meadows, pastures, and grassy slopes, predominantly on sandy and acid soils.



Lupinus albus

# Constituents of hydrolyzed lupin protein:

Hydrolyzed lupin protein is rich in glutaminated peptides and oligosaccharides.

## Properties of hydrolyzed lupine protein:

Stimulates the synthesis of structural proteins, favors the synthesis of epidermal lipids, reinforces the natural restructuring systems of the epidermis, maintains the epidermis hydratation.

# **Cosmetic applications:**

Hydrolyzed lupin protein is recommended for all repairing, regenerating and hydrating products.



#### ALOE VERA JUICE OBTAINED FROM ORGANIC FARMING

The Aloe Vera plant is originated in Africa, Middle and South America. It looks like a cactus but belongs to the group of liliaceous plants. Of 300 different Aloe species the "Aloe barbadensis" obtains the most valuable properties regarding our human organism and before all – our skin. The fleshy leaves of the Aloe barbadensis are able to store water for several months by closing its pores – an effective protection against drying out. The inner pulp of the leaves contain some kind of a gel, that has a very soothing effect on our skin.

**Cultivation and harvest**: Our Aloe Vera is cultivated and harvested by a small and very reliable and highly motivated company, regarding the strict requirements of BIO-cultivation methods. The fresh leaves are prepared manually by removing their skin, which contains aloin, and then the aloe juice is manufactured of the inner pulp.

#### **Description:**

Aloe vera is a stemless or very shortstemmed succulent plant growing to 80–100 cm tall, spreading by offsets and root sprouts. The leaves are lanceolate, thick and fleshy, green to grey-green, with a serrated margin. The flowers are produced on a spike up to 90 cm tall, each flower pendulous, with a yellow tubular corolla 2–3 cm long.

Parts used: The cosmetic industry uses the fresh gel from the parenchyma tissue in the centre of the leaf.



Aloe vera

#### Constituents of Aloe Vera:

Polysaccharides, Enzymes, Proteins (Amino Acids), Anthraquinones (Aloin), Saponins, Sterols, Vitamins, Minerals, Sugars.

## **Properties of Aloe Vera:**

Moisturizing, soothing, wound healing.

## **Cosmetic applications:**

Aloe vera is used for moisturizers, sensitive skin care, dry skin care, body care, sunscreens and after sun care, after shave lotions, shampoos.



### ORYZA SATIVA (RICE) EXTRACT OBTAINED BY ORGANIC FARMING

Botanical anti-aging ingredient obtained from Rice (oryza sativa), resulting from the latest research in the area of longevity, calorie restriction and sirtuins activation. The rice extract is rich in sirtuin (SIRT-1)-modulating peptides that activates SIRT-1 expression in human skin. Sirtuins, also called longevity proteins, help to repair cell damages und protect the skin from stress and photodamage. Scientists see the Sirtuin as a kind of genetic reinsurance: it ensures the survival of cells in stressful situations, especially when nutrients are scarce.

### **Description:**

Rice (Oryza sativa), an annual plant from the grass family, is considered to be one of the oldest cultivated plants. Its home is South-East Asia; The rice plant can grow to 1,50 m tall and has long, slender leaves. The small wind-pollinated flowers are produced in a branched arching to pendulous inflorescence, 30–50 cm long. The edible seed is a grain (caryopsis). It consists like all cereals of a germ bud, flour body, aleurone layer, episperm and fruit wall. In the rice, the three last together form the so-called silver skins.



Oryza sativa panicles

#### Constituents of rice extract:

Rice extract is rich in Sirtuin (SIRT-1) modulating peptides.

## Properties of Oryza sativa (rice) extract:

Rice extract increases the SIRT-1 content in the skin (in-vitro). Sirtuins, also called longevity proteins, help to repair cell damages und protect the skin from stress and photodamage.

## **Cosmetic application:**

Global anti-ageing products, anti-stress skin care products, day care products.



## OLIVE (OLEA EUROPAEA) OIL, REFINED, OBTAINED BY ORGANIC FARMING

Olive Oil is obtained from the flesh of ripe stone fruits from the Olea Europæa L., by cold-pressing or by means of some other suitable mechanical process. The main ingredient in the golden- to greenish-yellow clear, fatty, non-drying oil is oleic acid. The oil sets to a soft mass at between 0°C and 10°C and has a characteristic taste.

#### **Description:**

The olive tree is an evergreen tree or shrub native to the Mediterranean, Asia and parts of Africa. It is short and squat, and rarely exceeds 8-15 meters in height. The silvery green leaves are oblong in shape, measuring 4-10 cm long and 1-3 cm wide. The trunk is typically gnarled and twisted. The small white flowers, are borne generally on the last year's wood, in racemes springing from the axils of the leaves. The fruit is a small drupe 1-2.5 cm long, thinnerfleshed and smaller in wild plants than in orchard cultivars. Olives (oil content approx. 56%) are harvested just before they ripen fully. There are three harvesting methods: 1.) plucked from the tree, 2.) picked off the ground 3.) shaken out of trees and collecting off the ground. Nowadays, this is sometimes performed mechanically.



Olives on a tree

#### **Constituents of Olive Oil:**

Olive oil is rich oleic acid, linolic acid and palmitic acid, along with traces of squalene (up to 0.7%) and sterols (about 0.2% phytosterol).

## **Properties of Olive Oil:**

Rich in oleic acid. Penetrates slowly into the skin. Recommended for dry skin.

# Cosmetic applications:

Creams, lotions, bar soaps, massage oil.