



COSMECEUTICAL LINE

Ingredients Information Massage Fleece

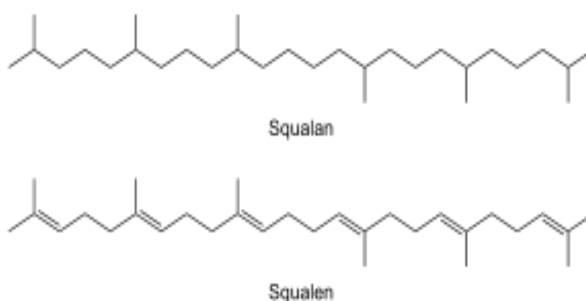


SQUALANE

Squalane is an emollient for personal care products derived from olive oil. It is a clear, colorless and odorless oil and has a high stability against oxidation.

Description: Squalane ($C_{30}H_{62}$) is the saturated form of squalene. It does not contain any double bonds in its chemical structure and therefore is very stable against heat and oxidation. Squalene is an unsaturated hydrocarbon ($C_{30}H_{50}$) which is present in vegetable oils, and especially in fish oil. It was traditionally extracted from shark liver oil which, in dependence of the shark species, contains up to 60 per cent squalene. It is of large interest for cosmetics as it is found in human sebum at a level of 12 per cent. Squalene, however, is not suitable for cosmetic formulations because it is highly unsaturated and therefore oxidizes easily. Therefore, it was converted into squalane by hydrogenation and purification. Alternatively, squalane may be obtained from olive oil which has a significant squalane amount from 0.1-0.7 per cent. It has the identical chemical structure as squalane sourced from the shark liver with the benefit of being vegetal in origin.

Chemical structure of squalane and squalene



Properties of squalane:

Squalane is a very suitable emollient for cosmetic formulations, has an excellent compatibility with human skin and imparts an elegant non-greasy skin feel.

Cosmetic applications:

Skin care products, sun and after sun formulations, massage oils.

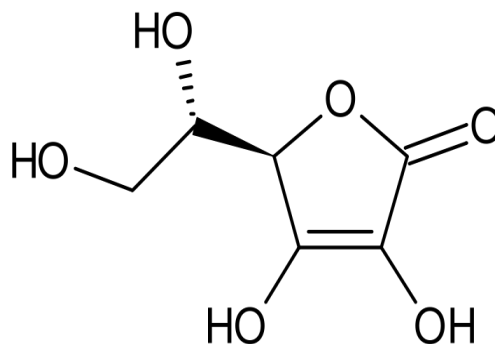
VITAMIN C (L-ASCORBIC ACID)

Vitamin C (L-ascorbic acid) is found in most higher animals and in plants in different amounts. It is synthesized in its pure form but as it is very unstable it has to be protected from water, light, air and heat. It supports the action of vitamin E by regenerating and reactivating it as a radical scavenger. Has itself scavenging properties and is involved in the formation of collagen.

Description:

Ascorbic acid is a sugar acid with antioxidant properties. Its appearance is white to light-yellow crystals or powder. It is water-soluble and must be formulated at low pH to stay active. The L-enantiomer of ascorbic acid is commonly known as vitamin C.

Chemical structure:



Properties of Vitamin C:

In clinical studies vitamin C has been found to act as an antioxidant and anti-inflammatory agent. In addition, vitamin C has been found to stimulate collagen synthesis and to reduce dark pigmentation of the skin (e.g. age spots). Thus, vitamin C is also considered an anti-aging ingredient.

Cosmetic applications:

Skin care, sun care, regeneration, repair, skin whitening.

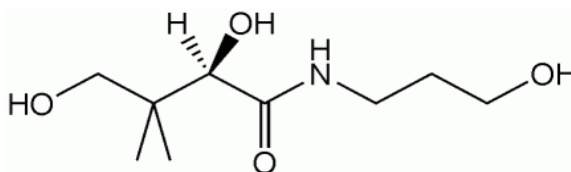
PANTHENOL

Panthenol is the alcohol analog of pantothenic acid (vitamin B5), and is thus the provitamin of B5. In organisms it is quickly oxidized to pantothenate. Panthenol is a highly viscous transparent liquid at room temperature, but salts of pantothenic acid (for example sodium pantothenate) are powders (typically white). It is well soluble in water, alcohol and propylene glycol, soluble in ether and chloroform, and slightly soluble in glycerin.

Description:

Panthenol comes in two enantiomers, D and L. Only D-panthenol (*dexpanthenol*) is biologically active, however both forms have moisturizing properties. For cosmetic use, panthenol comes either in D form, or as a racemic mixture of D and L (DL-panthenol).

Chemical structure:



Cosmetic benefits :

In cosmetics, panthenol is a humectant, emollient and moisturizer. It binds to hair follicles readily and is a frequent component of shampoos and hair conditioners (in concentrations of 0.1-1%). It coats the hair and seals its surface, lubricating follicles and making strands appear shiny.

In ointments it is mixed with allantoin, in concentrations of up to 2-5%, and is used for treatment of sunburns, mild burns and minor skin disorders.

Panthenol is not, however, absorbed through the skin and thus has limited effects that are not due to its provitamin character.

If ingested, panthenol is metabolized to pantothenic acid.

Cosmetic applications:

Panthenol is used in skin care, hair care, nail care, sun products, after sun.

CAVIAR EXTRACT

Caviar is the name given to the roe of sturgeon (*Acipenser spp.*) extracted directly from the female fish. It is one of the most select and prized cosmetic ingredients with a high cosmetic value based on its essential amino acids, structuring peptides, proteins, essential fatty acids and oligoelements, with a strong repair and regenerative power. Therefore, it is generally used in products for aged-skin care. Aged skin requires intense nutrition in order to recover the elements it has lost with the passage of time.

Description:

Caviar is the name given to the roe of sturgeon (*Acipenser spp.*) extracted directly from the female fish.



Caviar

Constituents of caviar:

Proteins: Caviar is a protein-rich product mainly containing the following amino-acids: arginine, histidine, isoleucine, lysine and methionine.

Lipids: Caviar lipids mainly include cholesterol (25%) and lecithin (75%).

Vitamins: Vitamin A, vitamins B2, B6, B12, niacin, pantothenic acid and folic acid.

Minerals: Calcium, magnesium, phosphorus, potassium and sodium.

Properties of caviar extract:

Skin repair activity, soothing, moisturizing.

Cosmetic applications:

Caviar extract is highly recommendable to formulate cosmetic products with skin stimulating and revitalizing activity.

MULBERRY (*MORUS ALBA* AND *MORUS NIGRA*) ROOT EXTRACT

Mulberry or *Morus* is a genus of 10–16 species of deciduous trees native to warm, temperate, and subtropical regions of Asia, Africa, and the Americas, with the majority of the species native to Asia. The most known species in Europe are *morus alba* and *morus nigra*. The extract of the bark and root contains substances that hinder the formation of melanin.

Description:

The mulberry tree has sawed leaves and grows up to 15 m. Its leaves are the basic food for silk worms. The fruits of the black mulberry look like blackberries and are edible.



Mulberry Tree (*Morus nigra*)

Constituents of mulberry extract:

The roots are rich in phenylflavons. The leaves are rich in asparaginic acid and vitamin C.

Properties of mulberry extract:

The phenylflavons of mulberry would contribute in an effect of whitening, anti-inflammatory and moisturizing of the skin. The effect of whitening would be mainly the result of an inhibition of the activity of tyrosinase, an enzyme taking especially place in the synthesis of melanine.

Cosmetic applications:

Mulberry extracts are used for their treatment of skin lightening.

HYDROLYZED SILK

Silk is a fiber obtained from the cocoons made by the larvae of the silkworm. These larvae feed on mulberry leaves. They have glands that produce protein material during the formation of the cocoon and throughout their life. Silkworm is the common name for the silk-producing larvae of several moth species; however, these are not worms, but caterpillars. Several species are used in commercial silk production, although *Bombyxmori* is the best known. Hydrolyzed silk is produced by controlled hydrolysis of silk protein.

Description:

Silk is a natural protein fiber containing about 70-75% fibroin, a fibrous elastic protein, and 25-30% sericin, an amorphous viscose protein, which acts as cement. Fibroin constitutes the internal core and sericin the external cover of the thread. Silk threads are very thin and long (300 to 900 meters), glossy white or creamy filaments. Silk is one of the most resistant fibers.



Cocoons

Constituents of hydrolyzed silk:

Proteins.

Properties of hydrolyzed silk:

Because of their polar nature, proteins easily bind water molecules through hydrogen bonds. When superficial moisturizing is involved, this action is almost not influenced by the molecular weight; however, if penetration and moisturizing of deeper skin layers is required, short-chain peptides – with lower molecular weights – are more effective.

Cosmetic applications:

Hydrolyzed silk is recommendable to formulate cosmetic products with skin moisturizing and conditioning activity.

MANGO BUTTER (MANGIFERA INDICA SEED BUTTER)

Mango Butter has been obtained from the fruit seed of the Mango Tree (*Mangifera Indica*) grown in the sub-tropics of India and other parts of the globe. From its seed a firm “butter“ is rendered, suitable for soaps, cosmetics, toiletries and pharmaceuticals.

Description:

Mango is a tropical fruit of the mango tree. Mangoes belong to the genus *Mangifera* consisting of about 35 species of tropical fruiting trees in the flowering plant family Anacardiaceae. Native to India the mango tree has been cultivated in many tropical regions of the world. Mango trees reach 35-40 m in height, with a crown radius of 10 m. The leaves are evergreen, alternate, simple, 15-35 cm long and 6-16 cm broad; when the leaves are young they are orange-pink, rapidly changing to a dark glossy red, then dark green as they mature. The flowers are produced in terminal panicles 10-40 cm long; each flower is small and white with five petals 5-10 mm long, with a mild sweet odor suggestive of lily of the valley. After the flowers finish, the fruit takes from three to six months to ripen.



Mango tree

Constituents of Mango butter

The Mango Butter contains a high content of C18:0 and C18:1 fatty acids.

Properties of Mango butter:

Mango Butter may be used for cutaneous dryness to assist in moisturization after exposure to sun. It melts readily at skin temperatures making it ideal for sticks and balms.

Cosmetic applications:

Skin care, body care.