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Exfo-olive

CareActives

Exfoliating



Exfo olive



INTRODUCTION

EXFO-OLIVE is produced from the pits of olive fruits (*Olea europae*), which are milled to obtain two cosmetic active compounds: one with particle size 200 μm and the other with particle size 500 μm .

This plant product has been developed as a physical exfoliant agent to accelerate skin desquamation and therefore improve skin appearance.



DESCRIPTION

SKIN EXFOLIATION

The horny layer is the outermost layer of the skin; besides its biological barrier function, it is also very important from an aesthetic point of view. The properties of the horny layer influence the skin appearance because they involve skin texture, light reflection and color.

The horny layer continually undergoes natural exfoliation, due to its cells (corneocytes) renewal. This process maintains the uniformity of skin properties. However, if the cell turnover is altered or slowed-down, because of aging or environmental aggressions, skin texture is impaired resulting in roughness and thickening of the horny layer.

Cosmetics solutions are available for this type of problems. Exfoliation removes dead cells and impurities, regulating the thickness of the horny layer and enhancing cell oxygenation. The outcome is smooth, polished, impurities-free and radiant skin.



TYPES OF EXFOLIATION

Exfoliation may be chemical or physical depending on the exfoliant agent. Chemical exfoliation consists in application of certain substances on the skin, which attack the cell junctions in the horny layer through enzymatic mechanisms or acidic pH. Conversely, physical exfoliation is based on detachment of dead cells through the mechanical action of exfoliant particles on the skin.

Exfoliation can also be classified as face exfoliation or body exfoliation depending on the area where it is performed.

Face exfoliation is usually mild, for cleaning the skin from impurities and dead cells enhancing the face appearance. Face exfoliants for men have additional properties such as improving men's skin tendency to impurities because of larger pores and more abundant sweating, and facilitating shaving because the hair follicles are more exposed.

Body exfoliation, usually harder, renews the epidermis, enhances its appearance and facilitates penetration of other cosmetic products such as anti-cellulite and self-tanning products.



EXFO-OLIVE is a natural plant exfoliant with superficial physical action on the skin, which can be applied both on the face and the body.

BOTANY AND CHEMISTRY

OLIVE IN THE NATURE



Olea europaea L. Olive tree is a perennial tree, member of family Oleaceae. Its common name comes from the Latin "*oleum*" meaning "oil".

This is a small, slow-growing tree, which seldom grows higher than 15 m. The trunk is thick and irregular, with characteristic tortuous forms. The leaves are perennial, coriaceous, greyish-green upside and silvery beneath, with a fresh and shining appearance in contrast with the senile look of the trunk and the branches. The flowers are white, small, fragrant and numerous.

Olive trees grow between 0 and 800 m altitude. These trees are adapted to extreme environmental conditions, except for excessive humidity. They thrive in warm, sunny areas but can however grow under less benign conditions; they endure cold and poor calcareous soils. Therefore, olive tree is a typical Mediterranean species, completely adapted to that region. This tree is considered a symbol of longevity because it may live more than 1,500 years.

The fruit (figure 1) is an ovate drupe, commonly known as olive. Actually, the word drupe is the Latin word for "olive that begins to ripe". Olive is a succulent very oily fruit of variable size – between 1.5 and 3 cm – depending on the cultivar.

The olive fruit is composed of the following parts: peduncle, epicarp (skin), mesocarp (pulp), endocarp (pit or stone) and embryo (seed). The color of olive fruits changes as they ripen, from deep green to bluish-black. The pit accounts for a large percentage of the fruits' weight (20-28%). The pit consists of a thick, highly lignified wall (29-32%) rich in cellulose (27-28%) and hemicellulose (24-35%) and poor in salts (0.6-0.8%); carbohydrates account for 52% of the pit weight.



Figure 1. Olive fruit

EXFO-OLIVE is a cosmetic ingredient produced from olives endocarp (pit).



TRADITIONAL USE OF OLIVE

Olive tree is the emblematic tree of the Mediterranean culture. It is highly prized since the ancient times because of its fruits and the high quality of its oil.



Olive tree is one of the oldest traditional crops in Europe. The precise place where it was first cultivated is not known. Research studies have suggested that its origins date back to 4000 years B.C. in ancient Mesopotamia. Actually, historical references to olive cultivation can be found in most of Middle East and Eastern Mediterranean cultures. Greeks and Phoenicians spread this crop to the Iberian Peninsula. They considered it a holy magical tree; Romans and other later Mediterranean peoples went on worshiping olive trees as symbols of peace and fertility as well as an essential crop.

Olive has been popularly used as a traditional medicine, because of its emollient properties and protective properties for the cardiovascular and the urinary systems. Because of its sensorial and nutritional properties it is an essential component of the Mediterranean diet and is considered a source of health benefits.

OLIVE IN COSMETICS

Olive tree conveys an image of longevity, endurance and health. Furthermore, as **EXFO-OLIVE** exfoliates the skin, it removes impurities and regulates the thickness, thus providing prolonged enhancement of the skin appearance. Skin irregularities are reduced and the skin appears healthier and radiant.

We present two olive cosmetic actives designed for different exfoliation needs:

- EXFO-OLIVE FACE: granulometry 200 μm , designed for mild face exfoliation
- EXFO-OLIVE BODY: granulometry 500 μm , designed for moderate body exfoliation

These powder actives are highly stable, suitable for use in any cosmetic formulation. Table 1 shows their physicochemical characteristics.



	EXFO-OLIVE FACE	EXFO-OLIVE BODY
Density	550-750 g/L	550-750 g/L
Granulometry	$\leq 200 \mu\text{m}: \geq 90\%$ $> 200\mu\text{m}: \leq 10\%$	$\leq 500 \mu\text{m}: \geq 90\%$ $> 500\mu\text{m}: \leq 10\%$
Particle morphology	Slightly elongated	Slightly rounded
Solubility	Insoluble in water	Insoluble in water

Table 1. Physicochemical characteristics of EXFO-OLIVE FACE and EXFO- OLIVE BODY

The figures 3 and 4 show the aspect of the particles of EXFO-OLIVE.



Figure 3: Macroscopic aspect of EXFO-OLIVE BODY

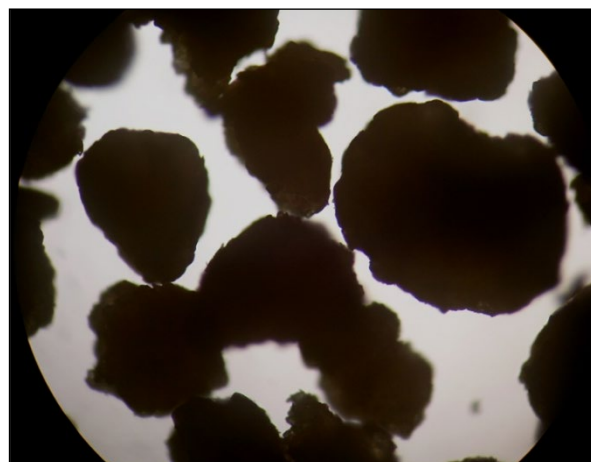


Figure 4: Appearance of EXFO-OLIVE BODY (X 10) observed through an optical microscope (Unilux-12, Kyowa)



The above explained EXFO-OLIVE characteristics make this product suitable for safe and effective skin exfoliation.

COSMETIC PROPERTIES AND APPLICATIONS

EXFO-OLIVE is a novel plant cosmetic ingredient for skin physical exfoliation. The characteristics of its particles make this product suitable for different face and body care formulations.

EXFO- OLIVE FACE meets consumers' different cosmetic needs on the basis of the following cosmetic properties:

- ✓ Young skin (< 20 years old). Major characteristics of this type of skin are: abundant sebum secretion and desquamation problems, which result in a tendency to acne. EXFO-OLIVE FACE, composed of particles of the lignin-rich olive pits, helps restoring normal desquamation and removes fatty impurities accumulated on the skin.
- ✓ Adult skin (20-40 years old). Due to daily life activities, the skin is subjected to different environmental challenges such as urban pollution, closed environments or smoke, which produce accumulation of impurities on the skin. Additionally, adult skin starts to show some irregularities due to accumulation of dead cells. EXFO-OLIVE FACE cleans the face skin leaving it better oxygenated and purified; it also removes cell accumulations, smoothing the face skin. Because of its carbohydrate content, olive pits also helps to improve also the hydration of the skin
- ✓ Mature skin (> 40 years old). Epidermal aging brings about slowdown of the desquamation process, which results in skin thickening and roughness. Olive tree's longevity is well known; its components are beneficial for aged skin. EXFO-OLIVE FACE helps restoring the normal physiological rate of dead cells elimination and polishes the skin relief, leaving the skin smoother and radiant.

Typical facial care formulations are hygiene products, such as gels or creams, and peeling products, such as face masks.

EXFO-OLIVE BODY is a physical exfoliant, which adapts to the different needs of the skin and can be used for the following applications:

- ✓ Young skin (< 20 years old). Physical activity and sports increase body sweating and produce an augment of skin impurities. EXFO-OLIVE BODY removes accumulated residues and leaves the skin clean, radiant and oxygenated. The chemical composition of the olive pit particles also has conditioning effects on the skin.
- ✓ Adult skin (20-40 years old). This type of skin needs specific cosmetic treatments; the use of moisturizing and anti-cellulite products is rather frequent. By other hand, social aspects and present-day trends bring about the



use of other selective products, such as self-tanning products. The geometry and chemical composition of EXFO-OLIVE BODY particles help removing skin irregularities and prepare the skin, so that subsequent cosmetic treatments can act more efficiently.

- ✓ Mature skin (> 40 years old). Much like the face epidermis, body epidermis shows reduced cell turnover rate, which produces roughness in certain areas such as the elbows, knees and feet. EXFO-OLIVE BODY reduces the thickening of the horny layer, leaving the skin even and smooth.

Typical body care formulations are hygiene products, such as gels or creams, and peeling products, such as body milk.

RECOMMENDED CONCENTRATION

- ✓ EXFO-OLIVE FACE: the recommended dose is between 5.0 and 10.0 %.
- ✓ EXFO-OLIVE BODY: the recommended dose is between 5.0 and 10.0 %.

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