

TECHNICAL DATA SHEET

Product Name: Green Coffee Seed Powder

INCI name: Coffea Arabica (Coffee) Seed Extract

CAS: 84650-00-0

Botanical name: Coffea arabica L.

Product quality: The product is concentrated at a 10:1 ratio, meaning that the amount of plant material used to obtain the extract is ten times greater than the final amount of extract. This ratio is applied to emphasize the extract's strength and functional efficacy.

Description: Green Coffee Seed Powder is a natural plant powder obtained by grinding immature, unroasted beans of Coffea arabica or Coffea canephora (robusta), known for their high content of bioactive compounds, particularly chlorogenic acid, caffeic acid, trigonelline, and polyphenols. Unlike roasted coffee, green beans are not exposed to thermal degradation and therefore retain almost all thermolabile components responsible for pronounced antioxidant and revitalizing effects. This extract acts as a tonic and a microcirculation stimulant, promoting tissue oxygenation and skin renewal. In cosmetic formulations, it is used for the care of tired, dull, and atonic skin, as it improves skin tone and elasticity. Due to the presence of chlorogenic acid, it also exhibits mild lipolytic and detoxifying activity, making it a suitable ingredient in formulations intended for cellulite treatments and body contouring. In addition, Green Coffee Seed Powder shows anti-inflammatory and photoprotective properties. In skincare products, it helps protect against oxidative stress induced by UV radiation, while in hair care formulations it contributes to follicle strengthening and helps prevent hair loss. It is commonly used in face masks, exfoliating products, skin-toning creams, anti-cellulite gels, and revitalizing serums, at concentrations of 1–5% in powder form, or higher when used as an active component in pastes and mechanical exfoliating products. The powder can be incorporated into formulations without heating or dispersed in the aqueous phase with gentle mechanical mixing, as it retains biological activity only when not exposed to high temperatures.

Bioactive compounds: Coffea arabica seed extract contains a complex of bioactive compounds responsible for its pronounced cosmetic properties. The most abundant phyto-

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chemical is caffeine, an alkaloid with a well-documented stimulatory effect on microcirculation and lymphatic drainage, helping reduce puffiness and improve skin tone. Alongside caffeine, chlorogenic acids play a significant role; these phenolic acids act as potent antioxidants, protecting cellular structures from oxidative damage caused by free radicals. The extract also contains diterpenes such as cafestol and kahweol, which, in synergy with other components, may contribute to skin protection and stimulation of regenerative processes. Phenolic compounds, including flavonoids such as quercetin and rutin, act as modulators of oxidative stress and may exert mild anti-inflammatory effects. Tannins, also present in the extract, contribute to an astringent effect, firming the skin surface and visually reducing enlarged pores. Less abundant but functionally relevant components include trigonelline, methylxanthines, and free amino acids, which participate in hydration and maintenance of skin elasticity. Pigment fractions, including small amounts of carotenoids, provide mild photoprotective support and contribute to a more even skin tone.

Benefits:

- Improves skin tone and reduces signs of fatigue.
- Stimulates microcirculation and lymphatic drainage.
- Provides antioxidant protection against external stressors.
- Slows collagen degradation and protects skin structure.
- Exhibits mild anti-inflammatory activity in reactive skin conditions.
- Firms the skin surface and reduces the appearance of pores.
- Hydrates and helps maintain skin elasticity.

Method of use: Concentrated green coffee bean powder (Green Coffee Seed Extract 10:1) is used in cosmetic formulations as an active botanical ingredient providing toning, antioxidant, and lipolytic effects. Its high content of chlorogenic acid, polyphenols, and caffeine makes it suitable for the care of skin lacking tone and vitality. In practice, it is incorporated into the aqueous phase of the formulation or added during the final stages of formulations without heating, in order to preserve thermolabile compounds responsible for biological activity. Recommended concentrations are adjusted to ensure visible efficacy without irritation lower levels in mild facial products and higher levels in body products and anti-cellulite treatments, depending on the desired intensity of effect. In creams and serums for skin revitalization, it helps reduce oxidative stress and alleviate signs of fatigue, while in products intended for sensitive areas such as the eye

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area, it supports the reduction of puffiness and dark circles. When used in hair care products, it stimulates hair follicles and improves scalp microcirculation, contributing to stronger hair fibers. The optimal formulation pH range is between 4.5 and 6.5. The extract should be stored in a dry, cool place, protected from light and moisture, to maintain stability and efficacy.

Animal testing: In accordance with current European regulations (Regulation (EC) No. 1223/2009 on cosmetic products), the substance has not been tested on animals. The safety assessment of the raw material is based on available toxicological data, scientific literature, and validated alternative testing methods (in vitro and in silico). The term in silico refers to testing and assessment methods carried out using computer models and simulations, rather than on living organisms (in vivo) or cell cultures (in vitro). This statement confirms compliance with the animal testing ban and is provided for informational purposes only regarding further use of the raw material in cosmetic formulations.

GMO: Non-GMO

Vegan: Does not contain components of animal origin

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