

TECHNICAL DATA SHEET

Product Name: Bamboo Extract

INCI Name: Glycerin, Aqua, Bambus Vulgaris Extract, Benzyl Alcohol, Dehydroacetic Acid

CAS: 56-81-5, 7732-18-5, 91771-33-4, 100-51-6, 520-45-6

Latin Name: Bambus Vulgaris Extract

Synonyms: Trsovača, Hardwood, Cane, Pine, Rattan, Twig, Kapok, Chusquea, Willow, Sisal, Olyroideae, Parianoideae

Functional Category: Skin and hair conditioning agent, humectant, emollient

Chemical Classification: Mixture

Extraction Method: The extract is obtained by ultrasonic extraction using ultrasound frequencies between 20 and 25 kHz. At these frequencies, ultrasonic waves generate microscopic bubbles in the liquid containing the plant material, leading to a phenomenon known as cavitation. Cavitation creates extreme local conditions of elevated pressure and temperature in the microenvironment around the imploding bubbles. This phenomenon mechanically disrupts plant cell walls, releasing intracellular active compounds and significantly increasing the rate and efficiency of extraction. The process is carried out at 25 °C to preserve the stability of thermolabile compounds such as flavonoids, vitamins, and essential oils. Compared to conventional maceration methods, ultrasonic extraction allows shorter processing times, higher yields, and better utilization of plant material. The obtained extract is preserved with a combination of benzyl alcohol (0.86%) and dehydroacetic acid (0.14%), a system approved for use in natural cosmetics and certified by ECOCERT and COSMOS. The extract is water-soluble, which enables easy integration into various water-based cosmetic formulations. The pH value of the finished extract ranges from 4.0 to 6.5, making it suitable for most dermal applications without the need for additional pH adjustment.

Extract Description: Bamboo extract is a natural ingredient increasingly popular in cosmetics. It contains a high percentage of silicon, a mineral essential for the health of skin, hair, and nails. Silicon strengthens connective tissue and improves skin elasticity. Other minerals present include calcium, potassium, and magnesium. The extract is rich

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TECHNICAL DATA SHEET

in flavonoids such as quercetin, kaempferol, rutin, hesperidin, luteolin, and apigenin, known for their strong antioxidant properties. It also contains phenolic acids, phytosterols, and a variety of amino acids essential for skin and hair health. Vitamins present include vitamin C and E, as well as the B complex: B1 (thiamine), B2 (riboflavin), and B6 (pyridoxine). The B vitamins play an important role in maintaining healthy skin, hair, and nails, as well as in metabolic processes. The extract promotes collagen synthesis, reducing the appearance of wrinkles and fine lines. It provides intensive hydration, helps the skin retain moisture, and leaves it soft and smooth. It also reduces redness and provides a soothing effect. Due to its ability to regulate sebum production, it is used in products for oily skin, helping achieve a balanced and clear complexion. The extract is light yellow, odorless, water-soluble, with a pH value between 4 and 6.5.

Benefits:

- Hydrates the skin
- Protects the skin against oxidative stress
- Helps prevent premature aging
- Regulates sebum production and soothes the skin, useful for oily and acne-prone skin
- Relieves symptoms of dry skin in cases of eczema and psoriasis, making the skin softer and smoother
- Due to its high silicon content, helps maintain skin elasticity, making it firmer and smoother
- Strengthens hair and improves its resistance, supporting scalp hydration and reducing dandruff
- Contributes to nail strengthening and reduces brittleness

Usage: Bamboo extract is used in various types of cosmetic products, with concentrations adjusted to the specific purpose of the formulation. In moisturizing creams and facial serums, it is typically used at concentrations of 1–5% to achieve optimal hydration and antioxidant protection. In products for oily and acne-prone skin, the extract is added in similar concentrations. In hair care products such as shampoos, conditioners, or masks, the recommended concentration is between 2–10%. In nail-strengthening formulations, the extract is usually added up to 5%, balancing efficacy and compatibility with other ingredients.

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TECHNICAL DATA SHEET

In body lotions or treatments for dry skin such as balms, it is used in higher concentrations, usually up to 10%, providing intensive care and skin renewal. The extract is water-soluble and is usually added during the cooling phase of formulation to preserve its efficacy. For maximum results, use is recommended in a pH range of 4.5–7, making it suitable for a wide spectrum of cosmetic products.

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). In silico refers to testing and evaluation methods carried out using computer models and simulations, rather than in a laboratory on living organisms (in vivo) or on cell cultures (in vitro). This note confirms compliance with the ban on animal testing and serves solely as information for further use of the raw material in cosmetic formulations.

GMO: Not GMO

Vegan: Contains no animal-derived components

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