

TECHNICAL DATA SHEET

Product Name: Raspberry Infused Oil

INCI Name: Rubus Idaeus Fruit Extract, Helianthus Annuus Seed Oil, Prunus Amygdalus Dulcis Oil, Tocopherol

CAS: 84929-76-0, 8001-21-6, 8007-69-0, 59-02-9

Latin Name: Rubus idaeus L.

Chemical Classification: Mixture, botanical oil extract (lipophilic macerate)

Functional Category: Skin care agent ~ occlusive, skin conditioning agent ~ emollient, antioxidant

Method of Production: Raspberry infused oil is obtained by ultrasonic extraction using ultrasound frequencies of 20–25 kHz. At these frequencies, ultrasonic waves generate microscopic bubbles within the oil containing the extract, leading to a phenomenon known as cavitation. Cavitation creates extreme localized conditions of high pressure and temperature in the microenvironment around collapsing bubbles. These conditions mechanically disrupt plant cell walls, releasing active components such as essential oil constituents, flavonoids, carotenoids, and sterols. The extraction is performed at a temperature of 25 °C in order to preserve the stability of thermolabile components. Cold-pressed linoleic-type sunflower oil, characterized by a high content of essential linoleic acid and a lower proportion of oleic acid, is used as the carrier oil, in combination with sweet almond oil. The addition of vitamin E as a natural antioxidant helps maintain freshness and quality while keeping the oil entirely natural. During extraction, the vessel containing the suspension is cooled in an ice–water bath to prevent temperature increase. Ultrasonic treatment is applied in short pulses with pauses in between. After completion of the process, the infused oil is filtered to obtain a clear, usable oil. This method is more efficient than traditional maceration, as it enables better raw material utilization and significantly shorter extraction time.

Description: In terms of texture, this oil is lightweight, non-greasy, and rapidly absorbed, without leaving a heavy feel on the skin. It is characterized by a pale golden to reddish-yellow hue. The presence of natural antioxidants contributes to its stability and resistance to oxidation, making it suitable for a wide range of formulations.

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In cosmetic applications, it is used as a natural emollient that softens and nourishes the skin, supports maintenance of the hydrolipid barrier, and provides a mild occlusive effect, thereby reducing transepidermal water loss. Owing to the phytochemical profile of raspberry fruit, the infused oil exhibits pronounced antioxidant activity, protecting the skin from oxidative stress and premature aging caused by UV radiation and environmental pollutants. Due to its gentle nature, it is particularly suitable for the care of dry, sensitive, and mature skin, including formulations intended for sensitive areas, such as the area around the eyes. It has also proven effective in soothing skin prone to redness and irritation, as it supports regeneration and does not clog pores. Thanks to its favorable composition and natural origin, raspberry infused oil represents a highly valuable raw material for the formulation of natural cosmetics, including serums, creams, oil blends, and emulgel products, especially within anti-age and dermoprotective product lines.

Bioactive Compounds: Among the most important bioactive constituents of raspberry infused oil are tocopherols, particularly alpha-tocopherol, which acts as a powerful natural antioxidant and protects skin cells from damage caused by free radicals. In addition, the oil contains phytosterols beta-sitosterol, campesterol, and stigmasterol which support skin regeneration, strengthen the protective barrier, and soothe inflammatory and irritated conditions. Carotenoids present in raspberry fruit, such as zeaxanthin, lutein, and beta-carotene, impart the characteristic color to the oil and provide additional protection against the harmful effects of UV radiation. The oil phase also contains partially transferred ellagitannins, known for their antioxidant properties. Traces of essential unsaturated fatty acids, such as linoleic and alpha-linolenic acids, are also present, nourishing the skin, improving elasticity, and supporting moisture retention. Thanks to this composition, raspberry infused oil provides protection against oxidative stress, slows the appearance of aging signs, helps even skin tone, improves skin firmness, and exerts soothing and restorative effects, particularly in sensitive and reactive skin types.

Benefits:

- Nourishes and softens the skin due to its fatty acid content.
- Protects skin cells from oxidative stress through natural antioxidants.
- Supports restoration of the lipid barrier and improves skin elasticity.

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- Soothes the skin and reduces reactivity in sensitive skin.
- Absorbs quickly without leaving a greasy residue.
- Does not clog pores and does not induce comedogenic effects.
- Easily combines with other oils and emollients.
- Enhances formulation stability due to the presence of phenolic compounds.

Directions for Use: Raspberry infused oil is used as a functional and active component in various cosmetic formulations, primarily in products for facial and body care, where its inclusion is optimized according to skin type and the intended function of the product. In moisturizing and anti-age creams, serum bases, oil blends, and emulgels for dry and sensitive skin, it is typically incorporated at concentrations ranging from 1% to 10%, achieving a balance between emollient performance and formulation stability. In formulations intended for the eye area and skin prone to redness, lower concentrations are recommended, while in products for very dry, cracked, or mature skin it may constitute a larger proportion of the lipid phase. Due to its good tolerability and stability, it can also be incorporated into formulations without additional heating, thereby preserving sensitive bioactive components. It is most commonly added in the final stage of formulation at lower temperatures, in order to maintain antioxidant properties and prevent degradation of beneficial compounds.

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 performed using computer models and simulations, rather than laboratory testing on living organisms (in vivo) or cell cultures (in vitro). This statement confirms compliance with the ban on animal testing and is provided solely for informational purposes 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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