

TECHNICAL DATA SHEET

Product Name: St. John's Wort Flower Infused Oil (RED)

INCI Name: Hypericum Perforatum Extract, Helianthus Annuus Seed Oil, Prunus Amygdalus Dulcis Oil, Tocopherol

CAS: 84082-80-4, 8001-21-6, 8007-69-0, 59-02-9

Botanical Name: Hypericum perforatum L.

Chemical Classification: Fats and Oils

Functional Category: Skin conditioning agent, emollient for normal, dry, and dehydrated hair and skin

Type of Maceration: Ultrasonic flower maceration (cold process)

Extraction Method: The infused oil of Hypericum perforatum flowers is obtained via ultrasonic extraction using ultrasound at frequencies between 20–25 kHz. At these frequencies, ultrasonic waves generate microscopic cavitation bubbles in the oil phase, which collapse and create high-pressure, high-temperature microzones. This phenomenon (acoustic cavitation) disrupts plant cell walls, releasing bioactive compounds such as essential oils, flavonoids, carotenoids, and phytosterols. Extraction is conducted at 25°C to preserve thermolabile constituents. The carrier oils used are cold-pressed linoleic-type sunflower oil (rich in linoleic acid, low in oleic acid) and sweet almond oil. Natural vitamin E (tocopherol) is added as an antioxidant to prolong shelf life and preserve natural freshness. The extraction vessel is cooled in an ice-water bath to prevent temperature rise, and ultrasound is applied in short intervals with resting phases. The final product is filtered to yield a clear, ready-to-use oil. Compared to traditional maceration methods, this technique provides higher extraction efficiency and shorter processing time.

Oil Color: The color of the infused oil depends on whether whole plants or only flowers are used. When only Hypericum flowers (without green parts) are used, the oil develops an intense ruby-red hue due to its higher hypericin content, which is concentrated in the dark glands on petals and sepals. This version is more photodynamically active and more valued in herbal and cosmetic applications. The final oil typically contains between

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0.05% and 0.09% hypericin.

Description: This infused oil contains hypericin and pseudohypericin pigments responsible for the red color and photodynamic properties as well as hyperforin, a compound known for its anti-inflammatory and antidepressant effects. Flavonoids like rutin and quercetin provide antioxidant protection to the skin, while phenolic acids (caffeic, ferulic) support epidermal regeneration and UV damage repair. The oil also contains xanthones and tannins with antiseptic and astringent effects, as well as trace carotenoids that support skin renewal and epithelial repair. Thanks to the high content of hypericin and hyperforin, the oil is used in topical preparations for skin regeneration following burns, cuts, bruises, hematomas, and inflammatory skin conditions. Its soothing and restorative effects make it ideal for sensitive and irritated skin formulations. It is also valued in anti-aging products due to its strong antioxidant activity. For external use only.

Important Note: St. John's Wort flower oil contains phototoxic compounds (primarily hypericin) that may cause adverse skin reactions when exposed to UV radiation. It should not be applied before sun exposure. Reactions may include redness, irritation, and skin damage. It is safe for evening use or in products not intended for sun-exposed skin. When used on larger skin areas, total hypericin content in finished products should not exceed 0.005% (50 ppm). The product must include the warning: "Avoid sun exposure after application. For night-time use only."

Key Benefits:

- Promotes skin regeneration and wound healing (minor burns, cuts, irritations)
- Reduces inflammation and soothes reactive, sensitive skin
- Provides antioxidant protection, helping slow skin aging
- Regulates sebum production and supports acne-prone skin care
- Offers antibacterial action, reducing infections and impurities
- Improves skin tone and elasticity
- Strengthens capillaries and improves microcirculation
- Provides astringent action and tightens enlarged pores
- May increase photosensitivity – caution advised during sun exposure

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Usage Guidelines: This flower-infused oil is used in cosmetic formulations as an active botanical, emollient, and dermoprotective agent. In skincare formulations aimed at regeneration and anti-inflammatory effects, it is typically used at 3–10%. In balms, oil serums, and spot treatments, usage can range from 5–12% depending on the formulation goals. In emulsions, it should be incorporated into the oil phase and ideally blended with more stable oils rich in antioxidants to help preserve photolabile compounds like hypericin and hyperforin. In sensitive-skin formulations, lower dosages are preferred. Due to the presence of photodynamically active substances, it is recommended for evening or non-UV-exposed formulations. It is also suitable for massage blends, supporting circulation and muscle relaxation. For oil-in-water systems, adding natural tocopherol is advisable to ensure long-term stability.

Animal Testing: Not tested on animals

GMO Status: GMO-free

Vegan Status: Contains no animal-derived components

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