

TECHNICAL DATA SHEET

Product Name: Acerola Cherry Extract

INCI Name: Glycerin, Aqua, Malpighia Punicifolia Fruit Extract, Benzyl Alcohol, Dehydroacetic Acid

CAS Numbers: 56-81-5, 7732-18-5, 50-81-7, 100-51-6, 520-45-6

Botanical Name: Malpighia glabra (Acerola cherry) Extract

Chemical Classification: Mixture

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

Extraction Method: The extract is obtained via ultrasonic extraction using ultrasound frequencies of 20–25 kHz. These frequencies generate microscopic cavitation bubbles in the liquid containing the plant material. Cavitation creates extreme local pressure and temperature conditions around the imploding bubbles, mechanically disrupting plant cell walls and releasing intracellular bioactive compounds. Extraction is conducted at 25°C to preserve thermolabile components. This method is more efficient than traditional techniques due to improved raw material utilization and reduced extraction time. The extract is preserved with 0.86% benzyl alcohol and 0.14% dehydroacetic acid. This preservative combination is accepted in natural cosmetics and certified by ECO-CERT/COSMOS. The extract is water-soluble. pH: 4–6.5.

Description: Acerola cherry extract is derived from the fruit of Malpighia emarginata, a tropical plant known for its exceptionally high vitamin C content. It is rich in antioxidants, including polyphenols and carotenoids, which protect the skin from oxidative stress caused by UV radiation and pollution. Therefore, it is commonly used in anti-aging cosmetic products to combat premature skin aging. The vitamin C in acerola promotes collagen synthesis, supporting skin firmness and elasticity. Proper use helps reduce wrinkles and improves skin tone and texture. The extract brightens the complexion, reduces hyperpigmentation, and evens out skin tone. It also contains vitamins A and B, and minerals such as iron, calcium, and magnesium, which further revitalize the skin. Its moisturizing properties make it suitable for creams and serums that aim to prevent moisture loss. When used in controlled concentrations, the extract is stable in cosmetic

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formulations and often combined with vitamin C stabilizers for enhanced efficacy. Recommended for all skin types, particularly mature or environmentally stressed skin.

Phytochemicals: Acerola is especially noted for its high vitamin C content about 1600 mg per 100 g of fruit, approximately 20 times more than lemons. It also contains vitamins A, B1, B2, and B3, as well as carotenoids and bioflavonoids. Phenolic compounds, including phenolic acids, flavonoids, and anthocyanins, are key secondary metabolites with various beneficial functions. Among organic acids, malic acid constitutes 32% of the total acids in acerola, with citric and tartaric acids present in smaller amounts.

Benefits:

- Protects skin from oxidative stress by neutralizing free radicals caused by UV radiation and pollution.
- Brightens the complexion by reducing dark spots, hyperpigmentation, and uneven skin tone.
- Stimulates collagen synthesis, improving elasticity and reducing fine lines and wrinkles.
- Offers anti-inflammatory properties that soothe the skin and reduce redness and inflammation.
- Hydrates the skin, strengthens the barrier, and improves softness and elasticity.
- Rejuvenates the skin by enhancing antioxidant capacity and eliminating free radicals.
- Prevents moisture loss, enhancing overall skin texture and tone.
- Exhibits antimicrobial and antifungal properties, protecting against microorganisms.

Usage: The recommended concentration of acerola extract varies based on product type and intended effect. In moisturizers and lotions, it is typically used at 1–5%, which is sufficient to utilize its moisturizing and antioxidant properties without risk of irritation. In serums for skin brightening and hyperpigmentation treatment, concentrations of 5–10% are used to effectively even out skin tone and stimulate collagen production. In face masks, the extract is applied in higher concentrations (5–15%), allowing deeper penetration of actives during application time. For revitalizing and refreshing products, acerola is combined with other hydrating and soothing ingredients to enhance efficacy. It is added to the water phase of the formulation. For external use only.

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Animal Testing: Not tested on animals

GMO: Non-GMO

Vegan: Contains no animal-derived ingredients

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