Avena Lab
Farmadria d.o.o. Since 1991.

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

# TECHNICAL DATA SHEET

## Cherry Fruit Extract

**Product Name:** Water-Glycerin Sour Cherry Fruit Extract

**INCI Name:** Glycerin, Aqua, *Prunus cerasus*, Benzyl Alcohol, Dehydroacetic Acid

**CAS:** 56-81-5, 7732-18-5, 89997-53-5, 100-51-6, 520-45-6

**Synonyms:** *Cerasus vulgaris* Extract, Bitter Cherry Extract, Sour Cherry Extract, Cherry Tails Extract

**Chemical Classification:** Mixture

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

**Extraction Method:** The extract is obtained using an ultrasonic extraction process employing ultrasound frequencies between 20 and 25 kHz. At these frequencies, ultrasonic waves generate microscopic bubbles within the liquid containing the plant material, leading to the phenomenon known as cavitation. Cavitation creates localized zones of extremely high pressure and temperature around the collapsing bubbles, mechanically disrupting plant cell walls and releasing intracellular bioactive compounds, thereby significantly improving extraction efficiency and yield. The extraction process is carried out at 25°C to preserve thermolabile constituents such as flavonoids, vitamins, and essential oil components. Compared to conventional maceration techniques, ultrasonic extraction provides shorter processing times, higher extraction yields, and more efficient utilization of botanical raw materials. The resulting extract is preserved with a combination of benzyl alcohol (0.86%) and dehydroacetic acid (0.14%), a preservative system approved for use in natural cosmetics and certified by ECOCERT and COSMOS. The extract is water-soluble, allowing easy incorporation into various water-based cosmetic formulations. The finished extract has a pH ranging from 4.0 to 6.5, making it suitable for most dermal applications without requiring significant pH adjustment of the final formulation.

**Description:** Sour cherry extract in a water-glycerin base is a botanical derivative obtained from the fruits of *Prunus cerasus*. In cosmetic applications, it is primarily valued for its antioxidant, refreshing, and toning properties. The presence of naturally occurring phenolic compounds, flavonoids, and fruit acids contributes to a more even

complexion, provides a mild exfoliating effect, and helps protect the skin against oxidative stress. Glycerin functions as a humectant by attracting and retaining moisture within the epidermis, thereby improving skin hydration. This type of extract is commonly incorporated into formulations intended to refresh the skin, revitalize dull complexions, and improve skin tone, making it particularly suitable for anti-aging and moisturizing products. Owing to its mild composition, it may also be used in products formulated for delicate areas such as the eye contour, provided that the extract is appropriately diluted and the finished formulation has been dermatologically tested. The extract is clear with a light reddish color, odorless, and water-soluble.

**Bioactive Compounds:** Sour cherry extract contains flavonoid compounds responsible for the fruit's characteristic deep red color. Cyanidin-3-glucoside and cyanidin-3-rutinoside are the principal anthocyanins naturally present in sour cherries. These compounds exhibit strong antioxidant activity and contribute to the extract's anti-inflammatory properties. The extract also contains quercetin, a flavonoid well known for its antioxidant and anti-inflammatory effects. Catechins, another important group of flavonoids, further enhance its antioxidant capacity. Ellagic acid, a naturally occurring polyphenolic compound, exhibits potent antioxidant activity and has been studied for its potential anticancer properties as well as its ability to neutralize harmful free radicals. The extract is also rich in hydroxycinnamates and flavan-3-ols, further contributing to its biological activity. Sour cherries are an excellent source of vitamin C, a powerful antioxidant that supports collagen synthesis, healthy skin appearance, and normal immune function. In addition, the extract contains beta-carotene, a provitamin A involved in skin regeneration and protection. Perillyl alcohol, another naturally occurring compound found in sour cherry extract, has also been investigated for its potential anticancer properties.

**Benefits:**

• Protects the skin against oxidative stress through the action of anthocyanins and vitamin C.

• Quercetin and ellagic acid help soothe irritated skin and reduce redness.

• Helps brighten the complexion and reduce the appearance of hyperpigmentation.

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

# TECHNICAL DATA SHEET

- Natural fruit sugars help maintain skin hydration.
- Vitamin C supports collagen synthesis and improves skin elasticity.
- Antioxidants and naturally occurring fatty acids strengthen the skin's protective barrier.
- Fruit acids provide gentle exfoliation and promote a smoother skin texture.
- The combination of bioactive compounds helps slow the visible signs of skin aging.

**Directions for Use:** Sour cherry extract in a water-glycerin base is used as a functional ingredient in moisturizing, anti-aging, and refreshing cosmetic formulations due to the presence of anthocyanins, flavonoids, and vitamin C, which provide antioxidant and soothing effects. In facial toners, gels, and lightweight emulsions, recommended use levels range from 1% to 5%, with lower concentrations preferred for sensitive or dehydrated skin and higher concentrations used in products designed to regenerate and protect skin exposed to environmental stressors. In anti-aging creams and serums, the extract is typically incorporated at concentrations between 2% and 5% to improve skin tone and reduce oxidative stress. Thanks to its gentle composition, it may also be used in products intended for delicate areas such as the eye contour, although concentrations below 2% are generally recommended following compatibility testing of the finished formulation. In leave-on products such as lotions, body milks, and leave-on masks, the extract enhances skin freshness and radiance. In rinse-off products such as facial cleansers and cleansing gels, it may be incorporated as a complementary ingredient to provide additional antioxidant benefits and improve the sensory profile of the formulation. In such products, concentrations typically range from 0.5% to 2% due to the shorter contact time with the skin. The extract exhibits good stability in water-based systems; however, formulations are recommended to maintain a pH between 4.5 and 6.5 in order to preserve both the color and biological activity of the anthocyanins.

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

# TECHNICAL DATA SHEET

**Safety Assessment:** According to the Cosmetic Ingredient Review (CIR) report published in 2017, *Prunus cerasus* (Sour Cherry) Fruit Extract is considered safe for use in cosmetic products when used at typical concentrations of up to 5%. Its safety has been confirmed for both leave-on and rinse-off products. The extract has not been associated with skin irritation or sensitization; however, lower concentrations and prior testing of the finished formulation are recommended for products intended for sensitive areas such as the eye contour. When used in accordance with Good Manufacturing Practice (GMP), the extract is considered safe and effective for use in moisturizing and anti-aging cosmetic formulations.

**Animal Testing:** In accordance with current European legislation (Regulation (EC) No. 1223/2009 on Cosmetic Products), this ingredient has not been tested on animals. The safety assessment is based on available toxicological data, scientific literature, and validated alternative testing methods (*in vitro* and *in silico*). *In silico* refers to testing and assessment methods performed using computer models and simulations rather than living organisms (*in vivo*) or cell cultures (*in vitro*). This statement confirms compliance with the European ban on animal testing and is provided solely for informational purposes regarding the use of this ingredient in cosmetic formulations.

**GMO:** Non-GMO

**Vegan:** Contains no ingredients of animal origin.

**Storage and Shelf Life:** The product is stable when stored in a cool, dry place. Shelf life: 2 years.

**Country of Origin:** China