

TECHNICAL DATA SHEET

Product Name: Ashwagandha Infused Oil

INCI Name: Withania Somnifera Root Extract, Helianthus Annuus Seed Oil, Prunus Amygdalus Dulcis Oil, Tocopherol

CAS: 90147-43-6, 8001-21-6, 8007-69-0, 59-02-9

Botanical Name: Withania somnifera (L.) Dunal

Chemical Classification: Mixture

Functional Category: Skin conditioning agent ~ Emollient, Skin care agent ~ Occlusive, Antioxidant

Maceration Type: Ultrasonic maceration, cold process

Production Method: Ashwagandha infused oil is obtained through ultrasonic extraction, using ultrasound frequencies between 20-25 kHz. At these frequencies, ultrasonic waves generate microscopic bubbles in the oil containing the plant material, leading to a phenomenon known as cavitation. Cavitation creates extreme conditions of localized pressure and temperature around the collapsing bubbles, which mechanically disrupt plant cell walls and release active components such as essential oils, flavonoids, carotenoids, and sterols. The extraction is carried out at 25°C to preserve thermolabile components. Cold-pressed linoleic-type sunflower oil is used as the carrier, rich in linoleic acid and low in oleic acid, along with sweet almond oil. Vitamin E is added as a natural preservative to maintain freshness and quality while keeping the product 100% natural. During extraction, the suspension vessel is cooled in an ice-water bath to prevent temperature rise. Ultrasound is applied intermittently. After completion, the oil is filtered to obtain a clear, usable extract. This method is more efficient than traditional maceration due to improved yield and shorter processing time.

Description: The root of *Withania somnifera*, also known as Indian ginseng, has been used for centuries in Ayurvedic medicine as an adaptogen a compound that helps the body cope with stress and restore physiological balance. In cosmetics, the root extract is gaining recognition for its rich phytocomplex and pronounced effects on skin exposed to environmental stress and oxidative damage. Its chemical profile includes vitanolides

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(withanolides), alkaloids, saponins, phytosterols, flavonoids, and traces of essential oils. Withanolides are steroidal lactones found almost exclusively in this plant, known for their adaptogenic, anti-inflammatory, and antioxidant properties. They reduce epidermal inflammation, support natural skin regeneration, and soothe redness and irritation especially in sensitive skin. Phytosterols reinforce the skin's lipid barrier, aid tissue regeneration, and even out complexion, particularly in stressed, dull skin. Flavonoids act as natural antioxidants that neutralize free radicals, protect cellular structures, and slow premature aging. When applied topically, the extract calms skin exposed to UV radiation, pollution, and oxidative imbalance caused by stress and lack of sleep. It penetrates beyond the surface layers, stimulating collagen and elastin synthesis beneficial for mature and weakened skin. Combined with plant oils that aid absorption, the extract becomes a valuable active for care and protection of dry, mature, and sensitive skin.

Benefits:

- Soothes irritated and sensitive skin thanks to natural anti-inflammatory compounds.
- Promotes skin regeneration and helps restore natural balance.
- Protects against oxidative stress and slows signs of aging.
- Strengthens the lipid barrier and prevents moisture loss.
- Evens out skin tone and enhances overall appearance.
- Maintains elasticity and contributes to skin softness.
- Suitable for dry, mature, and fatigued skin.
- Does not clog pores and is suitable for daily use.
- Revitalizes skin exposed to stress and environmental factors.
- Absorbs easily and leaves no greasy residue.

Usage: Ashwagandha infused oil is widely used in cosmetic formulations as a functional plant-based emollient and active component. It is typically added in the final stage of product preparation at temperatures below 40°C to preserve the stability and efficacy of its natural bioactives. In face and body emulsions, it is used at concentrations between 2% and 10%, depending on the desired effect and total oil phase. In oil-based serums and anhydrous products, it can constitute up to 100% of the composition, especially when used as the main active carrier. For eye-area treatments and serums, a concentration of 1% to 5% is recommended, while for creams, balms, and lotions for dry and mature skin, doses up to 10% are suitable. It can also be included in body care

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products such as massage oils or anti-aging lotions, where its regenerative properties are particularly valuable. Due to its light texture and excellent skin compatibility, it is ideal for daily care of irritation-prone skin and for use in regenerative nighttime treatments.

Animal Testing: Not tested on animals

GMO Status: Non-GMO

Vegan: Contains no animal-derived ingredients



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