

TECHNICAL DATA SHEET

Product Name: Arnica Infused Oil

INCI Name: Arnica Montana Flower Extract, Helianthus Annuus Seed Oil, Prunus Amygdalus Dulcis Oil, Tocopherol

CAS: 68990-11-4, 8001-21-6, 8007-69-0, 59-02-9

Chemical Classification: Mixture

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

Description: Arnica infused oil is a highly valued cosmetic ingredient obtained by macerating Arnica montana flowers in a high-quality vegetable oil—a mixture of cold-pressed linoleic-type sunflower oil and sweet almond oil. The maceration process allows active compounds from arnica, such as helenalin, flavonoids, sesquiterpene lactones, and thymol derivatives, to transfer into the base oil, combining the medicinal properties of the plant with the "carrier" oils. This process results in a stable, fragrance-free formula with the addition of vitamin E as a natural preservative. Arnica oil is known for its strong anti-inflammatory and soothing effects, making it useful in treating irritated and sensitive skin. Its ability to promote circulation contributes to skin regeneration, increases elasticity, and enhances skin firmness. It is used in creams, lotions, and balms designed to reduce bruising, swelling, rheumatic pain, cramps, and injuries such as sprains. Its key active component, thymol, acts as a vasodilator, increasing blood flow in subcutaneous capillaries, which helps eliminate fluid retention and accelerates the recovery of traumatized tissues and muscles. In addition to its skin applications, arnica oil is also used for scalp care, stimulating local blood circulation and potentially promoting hair growth. Its anti-inflammatory properties are also beneficial for insect bites and minor injuries, reducing pain and bruising. It is important to note that this oil is for external use only and should be used in recommended concentrations to avoid irritation, especially due to the presence of helenalin. Arnica oil is completely natural, free from artificial colors, fragrances, preservatives, or mineral oil-based raw materials, making it ideal for use in natural cosmetics and skin care products.

Precautions: Helenalin is a naturally occurring organic compound belonging to the class of sesquiterpene lactones, found in the flowers of Arnica montana. This compound is

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responsible for many of arnica's medicinal properties but also for potential side effects when misused. Helenalin has strong anti-inflammatory, antimicrobial, and analgesic properties, making it a key active ingredient in arnica-based products. Its anti-inflammatory effect is achieved by inhibiting the activity of certain enzymes and signaling pathways involved in inflammatory processes, such as NF- κ B, thereby reducing inflammation and swelling. Due to these properties, helenalin is used in formulations for treating bruises, sprains, muscle pain, rheumatic conditions, and other injuries. However, helenalin can be potentially irritating to the skin, especially in high concentrations, and may cause allergic reactions in sensitive individuals due to its ability to react with protein thiol groups. Despite these limitations, helenalin remains one of the main reasons why arnica is so effective in natural cosmetics and traditional medicine. Its proper use allows for effective inflammation and pain relief with minimal risk.

Benefits:

- Reduces inflammation and swelling by inhibiting inflammatory processes.
- Relieves muscle, joint, and rheumatic pain.
- Speeds up the healing of bruises and sprains.
- Acts as an antimicrobial agent, protecting the skin from infections.
- Stimulates circulation, accelerating the recovery of traumatized tissue.
- Soothes irritated skin and reduces redness.
- May help alleviate symptoms of superficial vein inflammation.
- Supports skin regeneration and improves elasticity.
- Helps with swelling caused by injuries or fluid retention.
- Relieves itching and discomfort from insect bites.

Usage: Arnica infused oil is used in cosmetic formulations for its anti-inflammatory and regenerative properties. In body creams and lotions, the recommended concentration of arnica infused oil is typically 5–10%, while in massage balms or muscle relaxation products, it can be used in higher concentrations, up to 20%, for a more intensive effect. In facial formulations, such as serums or lightweight creams, it is advisable to limit the concentration to 2–5% to avoid potential irritation of sensitive skin. Arnica oil is ideal for formulations aimed at reducing bruising, swelling, and redness, and is often included in skin regeneration gels. When formulating, it is important to combine arnica oil with other soothing ingredients, such as allantoin or bisabolol, to enhance its efficacy while minimizing the risk of irritation. It is important to note that arnica oil should not be used

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on damaged skin or in excessively high concentrations to avoid potential photosensitivity or allergic reactions. In leave-on formulations, such as daily creams, the addition of natural antioxidants like vitamin E is recommended to stabilize the oil and extend the product's shelf life.

Safety Assessment: The Cosmetic Ingredient Review (CIR) Expert Panel published a safety assessment of arnica oil in 2005. Recommended concentrations for arnica oil in cosmetic products vary depending on the intended use. In creams and lotions for reducing inflammation and swelling, it is typically added at a concentration of 1% to 5%, ensuring optimal efficacy without irritation. For serums and other products intended for sensitive skin areas, a lower concentration of 0.5% to 2% is recommended.

Animal Testing: The substance has not been tested on animals.

GMO: Non-GMO

Vegan: Does not contain animal-derived components.