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Cotton Seed Oil

Product Name: Cotton Seed Oil

INCI Name: Gossypium Herbaceum Seed Oil

CAS: 8001-29-4

Synonyms: Gossypium Herbaceum (Cotton) Seed Oil, Cottonseed Oil

Chemical Classification: Fats and Oils

Functional Category: Skin and hair conditioning agent ~ Emollient

Extraction Method: Cold-pressed (26–32 °C)

Processing Type: RBD (Refined, Bleached, Deodorized)

Oil Description: Cotton seed oil (INCI: Gossypium Herbaceum Seed Oil) is a vegetable oil primarily used in cosmetic formulations as an emollient and conditioning agent for skin and hair care. It helps soften the skin, improves sensory feel, and contributes to the formation of a pleasant protective lipid film on the epidermis. In skincare preparations, it is used to alleviate the sensation of dryness, roughness, and tightness, while in hair care products it improves hair smoothness, softness, and reduces the appearance of dryness and coarse texture.

The oil is rich in fatty acids, particularly linoleic and oleic acids, with smaller to moderate amounts of palmitic and other saturated fatty acids. This lipid profile explains its emollient function. Linoleic acid plays an important role in maintaining the skin's surface lipid balance, allowing formulations containing this oil to provide nourishing effects without an excessively heavy feel when properly incorporated into cosmetic systems. The oleic acid fraction contributes to spreadability and flexibility, making cotton seed oil beneficial in emulsions and oil serums where it enhances the sensory finish of the product.

In cosmetic applications, cotton seed oil is commonly used in products intended for dry, mature, and sensitive skin, as well as in formulations designed to provide comfort

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and nourishment. In creams, lotions, body butters, balms, and oil blends, it contributes to a softer and more elastic skin feel. It does not function as a direct active ingredient targeting a specific skin condition, but rather as a functional lipid raw material that improves texture, spreadability, and the overall conditioning profile of formulations. It is especially useful when combined with other vegetable oils, esters, and barrier lipids in systems intended to support the skin's natural lipid component.

In hair care formulations, cotton seed oil helps soften the hair fiber and reduce the sensation of dryness, particularly in porous, chemically treated, or heat-damaged hair. In masks, conditioners, and hair-end serums, it improves product glide and contributes to a smoother finish. Since it is not considered a particularly heavy or highly occlusive oil, it can also be used in lightweight hair formulations when properly dosed.

Physicochemical Properties: Cotton seed oil (*Gossypium Herbaceum* Seed Oil) is a clear to slightly opalescent liquid. Its color ranges from pale yellow to golden yellow. The odor is mild and generally neutral. At lower temperatures, the oil may become cloudy or partially crystallize, but it returns to a uniform state at room temperature after standing and gentle mixing.

The oil is insoluble in water. It is compatible with vegetable oils, triglycerides, esters, and waxes, and blends well with most lipophilic cosmetic ingredients. In emulsions, it is incorporated into the oil phase.

For routine quality control, a neutral odor is important. The oil should not exhibit rancid notes or visible impurities. Low peroxide and acid values are desirable indicators of quality. Due to its content of unsaturated fatty acids, the oil is sensitive to oxidation.

Cotton seed oil is rich in palmitic, oleic, and linoleic acids, as well as a mixture of arachidic, behenic, and lignoceric acids (approximately 10%). It contains more than 50% omega-6 fatty acids.

The oil has a lightweight texture, does not leave the skin greasy, and absorbs quickly after application. When applied to damp skin, cotton seed oil may serve as an alternative to a day or night cream. Due to its relatively high ceramide content, it is also beneficial for the care of dry and damaged hair. With regular use, it may help strengthen hair fibers and follicles while reducing hair breakage and hair loss.

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Cotton seed oil is rich in antioxidants such as vitamin E, which help slow the skin aging process and the formation of wrinkles, making it especially suitable for mature skin care.

Benefits:

- Softens the skin and improves smoothness after application.
- Helps reduce the sensation of dryness and skin tightness.
- Contributes to the formation of a protective lipid film on the skin surface.
- Helps reduce roughness and improves skin texture.
- Adds shine to the hair without creating a heavy occlusive effect.

Use in Cosmetic Products: Cotton seed oil may be incorporated into various cosmetic formulations as part of the oil phase. It is used in concentrations ranging from 1–100%. The oil may also be applied in pure form, for example as a massage oil.

It is commonly used in skin protection creams, lotions, bath oils, sunscreen products, and cosmetic products intended for babies and children. For external use only.

Animal Testing: In accordance with current European regulations (Regulation (EC) No. 1223/2009 on cosmetic products), this substance has not been tested on animals. The safety assessment of the raw material is based on available toxicological data, scientific literature, and validated alternative testing methods (*in vitro* and *in silico*).

The term *in silico* refers to testing and assessment methods performed using computer models and simulations rather than on living organisms (*in vivo*) or cell cultures (*in vitro*). This statement confirms compliance with the ban on animal testing and is provided solely for informational purposes regarding the further use of the raw material in cosmetic formulations.

GMO: GMO-free

Vegan: Does not contain ingredients of animal origin

Country of Origin: Netherlands