

TECHNICAL DATA SHEET

Bakuchi Seed Oil

Product Name: Bakuchi Seed Oil

INCI Name: Psoralea Corylifolia Seed Oil

CAS: N/A

Botanical Name: Psoralea Corylifolia Seed Oil

Synonyms: Bemchi, Bavanchi, Bakuchi, Psoralea corylifolia L., Cullen corylifolium (L.) Medik.

Chemical Classification: Fats and Oils

Functional Category: Skin and hair conditioning agent ~ Emollient

Extraction Method: Cold-pressed

Processing Type: The oil undergoes a filtration process using a screen-filtering method, in which a system of fine filters is applied to remove impurities, particles, and potential biological contaminants.

Description: Bakuchi oil, also known as Babchi oil, is obtained by cold pressing the black seeds of the Psoralea corylifolia plant, native to India and Sri Lanka. It has a dark red to dark brown color and a distinctive nutty aroma. Traditionally, it has been used in Ayurvedic and Traditional Chinese Medicine for the treatment of skin conditions such as vitiligo, psoriasis, and fungal infections.

The oil naturally contains bakuchiol, a botanical active ingredient considered a gentle and effective alternative to retinol. It does not typically cause irritation, redness, or photosensitivity and is suitable even for sensitive areas such as the eye contour region. Bakuchiol supports collagen synthesis, improves skin elasticity, and helps reduce visible signs of aging without the unwanted reactions commonly associated with retinoids.

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Bakuchi oil is also beneficial for acne-prone skin. It helps stabilize sebum production, prevents lipid peroxidation, and protects the skin's acid mantle. These effects contribute to reducing bacterial proliferation and excessive keratinization, thereby minimizing inflammation and impurities.

The oil is also valuable in scalp care applications, where it supports microcirculation and may help stimulate hair growth in cases of alopecia. Due to its antimicrobial activity, it is additionally used for mild skin infections. Bakuchi oil is frequently incorporated into sun care and tanning products because it remains stable under UV exposure and does not exhibit phototoxic reactions.

The oil is intended exclusively for external use. In cosmetic formulations, it is used at low concentrations and combined with other botanical oils and active ingredients. It is particularly suitable for anti-aging serums, body lotions, and formulations intended for problematic skin. The oil is soluble in cosmetic esters and fixed oils but insoluble in water.

Phytochemicals: Bakuchiol, the principal active compound in this oil, belongs to the meroterpene group and represents a secondary metabolite naturally synthesized by the plant, especially within the seeds. During cold pressing, bakuchiol is extracted together with natural lipids, antioxidants, and other phytochemicals. Its concentration in the oil depends on several factors, including plant genetics, cultivation conditions (climate and soil), seed maturity at harvest, and the extraction method itself. Analytical studies have shown that the bakuchiol content in unrefined Babchi oil may vary from 5% to 12%, while high-quality raw materials typically contain around 10%. This concentration is considered naturally occurring and reflects the chemical profile of the plant rather than concentration processing.

In addition to bakuchiol, the oil contains other bioactive compounds that contribute to its overall activity on the skin. Particularly important are the furanocoumarins psoralen and isopsoralen, which possess photosensitizing properties and may limit the use of the oil in daytime skincare formulations without UV protection. Meratopsin, a structurally related compound with potential anti-inflammatory effects, is also present.

The oil further contains flavonoids such as bavachin, isobavachin, corylifolin, corylifolinin, and bakuchicin, which demonstrate antioxidant, antibacterial, and

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antifungal properties. Smaller amounts of sterols and phytoprogestosterone derivatives are also present, contributing to hormonal modulation effects on the skin and hair. The lipid fraction contains triglycerides of unsaturated fatty acids that serve as carriers for active molecules while providing emollient properties.

Overall, Bakuchi oil represents a rich botanical complex with multiple cosmetic functions, ranging from skin regeneration and anti-aging effects to acne management, hyperpigmentation care, and scalp support. Its biological value lies not only in bakuchiol itself but also in the synergy of the complete phytochemical matrix.

Benefits:

- Reduces the appearance of fine lines and wrinkles by supporting natural collagen production.
- Improves skin elasticity and firmness.
- Helps even out skin tone and reduce hyperpigmentation.
- Non-irritating and suitable for sensitive areas such as the eye contour.
- Suitable for both morning and evening use due to the absence of photosensitizing effects.
- Supports acne-prone skin by stabilizing sebum production and reducing inflammation.
- Helps reduce bacterial colonization and excessive keratinization of skin cells.
- Exhibits antibacterial and antifungal activity beneficial for mild skin infections.
- Stimulates hair growth and helps revitalize scalp follicles.

Directions for Use: Bakuchi oil from which furanocoumarins have been removed is used as an active component in a broad spectrum of cosmetic formulations due to its photostability and suitability for daytime use. In anti-aging products such as facial serums and creams, it is most commonly used at concentrations of 1–5%, allowing the regenerative and soothing properties of bakuchiol to be utilized while maintaining a gentle and well-tolerated formulation, even for sensitive skin.

In formulations intended for acne-prone skin and hyperpigmentation concerns, it is used at similar concentrations, typically in combination with non-comedogenic oils and botanical extracts that further reduce inflammation and soothe the skin. For sensitive areas such as the eye contour, lower concentrations between 0.5–1% are recommended to minimize irritation while maintaining targeted efficacy.

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In body lotions, emulsions, and scalp treatments, concentrations may reach up to 5%, depending on the formulation base and desired effect. Since the oil does not induce photosensitivity, it may be incorporated into daytime products, including formulations intended for UV-aging protection, post-sun skin recovery, and intensive overnight regeneration.

It is recommended to add the oil during the cooling phase of formulations (below 40°C) in order to preserve the stability of bakuchiol and other active compounds. Despite its generally high tolerability, a patch test on a small skin area is recommended prior to first use to exclude individual hypersensitivity reactions.

Safety in Use: The Cosmetic Ingredient Review (CIR) Expert Panel published its official safety assessment of bakuchiol in 2020, concluding that bakuchiol is safe for use in cosmetic products when used at concentrations commonly applied in practice. The assessment included toxicological data related to dermal irritation, sensitization, genotoxicity, and phototoxicity, demonstrating that bakuchiol does not produce adverse reactions even at higher concentrations.

According to this report, concentrations up to 1% bakuchiol in finished products are considered safe and are the most commonly used levels in dermocosmetic applications, including facial care products, serums, and formulations intended for sensitive skin areas. CIR also noted that concentrations between 1.5% and 2% do not present a risk to healthy skin; however, for routine and long-term use, concentrations within the range of 0.5–1% are generally recommended, especially in products intended for daily use and application over larger skin areas.

It is important to emphasize that the CIR assessment applies to pure, isolated bakuchiol rather than Babchi oil itself, which also contains other potentially phototoxic components. Therefore, a distinction is always made between standardized bakuchiol and the botanical oil containing it. In practical formulation work, purified bakuchiol is added during the cooling phase and combined with stable, gentle carrier systems to maximize both tolerability and efficacy, particularly for sensitive and reactive skin.

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Animal Testing: Substance not tested on animals

GMO: GMO-free

Vegan: Does not contain ingredients of animal origin

Raw Material Origin: India

