

CBD OIL FOR HEALTHIER-LOOKING SKIN

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Phytonutrients are the driving force of innovation in skin research because they can protect the skin against harmful exogenous and endogenous agents and can help in remediation of skin disorders and aging health. Cannabidiol (CBD) is one such phytonutrient.

CBD is a non-psychoactive and non-intoxicating cannabinoid (unlike delta 9-tetrahydrocannabinol, or THC) naturally present in the *Cannabis sativa* L. plant. It is non-polar, viscous in nature, with a characteristic smell of cannabis.

Researchers postulate that cannabidiol has potential use in cosmetics as an anti-acne and anti-inflammatory agent. As a result, there is significant research activity being conducted on rodent models, human skin organ cultures and so on. And, unsurprisingly, there is also rising interest in the use of CBD-infused oil in cosmetic formulations such as hair care and skin care.

CBD Skin Care

The skin represents the barrier of the human body that shields it from a variety of strains such as heat, cold and light, including UV and other types of harmful irradiation. Other stressing factors with which the skin has to cope are dehydration, noxious substances, insect bites and infection.

To survive these strains, the skin performs a variety of specialized functions and reactions; for example, production of melanin and sebum, keratinization, sweat excretion and so on.

Under the noxious conditions, cannabidiol has been hypothesized and tested in preliminary in-vitro studies as an agonist agent, providing faster recovery and remediation of the skin.

CBD Formulations & Efficacy

There are many studies being conducted on the efficacy of CBD at different dosages in dermatology. Beneficial effects can be seen with compositions comprising less than 1% (by weight) of CBD oil. Accordingly, International Cosmetics Science Centre (ICSC) has developed a sebum rebalancing cosmetic cream formulation containing 0.5% CBD oil^a.

We have also found that CBD infused in *Cannabis sativa* seed oil, or hemp oil, renders the beneficial effects of both ingredients. This holistic approach provides higher nutrition to the skin by delivering phytonutrients from the CBD extracts and polyunsaturated fatty acids from the hemp seed oil.

Hemp seed oil has additional benefits such as healing damaged skin and is effective in the cases of eczema, psoriasis, etc. The oil can also help counteract occlusivity by decreasing trans-epidermal water loss and thereby increasing the level of water retained in the epidermis, which is critical for proper moisturization. This is a significant problem in people with atopic eczema, chronic contact eczema and other forms of dry skin.

^awww.icsc.dk/cbdoilformulation



Creating Shelf-stable Products

Keeping phytonutrients such as CBD stable in hemp oil for extended periods of time is an uphill task due to oxidation problems. This can be solved with innovative internal stabilization technologies, such as the one developed by ICSC, in which the oil oxidation is arrested for an extended amount of time, thereby enabling longer shelf lives for end products/formulations containing CBD oil.

To control the development of rancidity in the manufacture of top-quality CBD oils, the following precautions must always be taken:

- Use high-quality, freshly produced raw materials.
- Always store in a cool, dark and dry place under an inert atmosphere of nitrogen.
- Use stainless steel containers, drums or tanks to avoid trace metal contamination.
- Heat the oils to the minimum practical temperature required for processing; all forms of excess heating should be avoided.
- Avoid air leakage. Any micro leakage allowing the influx of even trace amounts of air can induce the development of thermal polymers, oxidative polymers and thermal oxidative polymers. ■

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