

APRICOT KERNEL OIL

General Info

Apricot oil is produced by of common apricot *Prúnus armeniáca* stone kernel cold pressing. It universally functional as a plant oil. It is equally usable in food, cosmetology. Apricot oil looks as yellow, clear oil having a very mild odor and taste. It also enters in content of many high quality toilet soaps, lip balms and creams. But alone it is without any doubts more valuable than the most of them in which non-functional additives, fillers, jellifies, etc are predominating. Apricot oil has been used both in Oriental and European traditional medicine.

We are distributing non-refined cold pressing apricot oil free of any artificial additives or colorants. It id produced by the classic technology of cold pressing with double filtration, the manufacture method applied permits to fully preserve its native complex of useful biologically active substances.

Apricot oil biologically active substances contents considered to be the main criteria of natural oils value

Subdtance	Content	Notes
FATTY ACIDS [1,2,3]		
saturated		
Stearic	0.5 %	C18
Palmitic	5.8-19 %	C16
unsaturated		
Palmetoenic	1.5 %	C16:1ω7
Oleic	55-77 %	C18:1ω9
Linoleic	16-29.3 %	C18:2ω6
LinoLenic	0.22% up to 1%	C18:3ω3
11 - eicosenoic	0.18 % up to 1%	C20:1ω9
OTHER LIPIDS [4]		
Squalene	12-44 mg/100 g	
Phytosterols	215-970 mg/100 g	β-sytosterol 76-86%
LIPID SAVABLE VITAMINS AND PROVITAMINS [5]		
Tocochromanols	0.15–0.53 mg/100 g	γ-tocopherol 91–94%
Carotenoids	78.8–258.5 mg/100 g	Predominating β-cryptoxanthin & β-caroten, lutein & zeaxanthin 76–94%

Apricot oil particular characteristic biomedical peculiarities

Apricot oil value is determined by very high proportion of unsaturated fatty acids, squalene and phytosterols, special benefits are obtained due to carotenoids, A group vitamins.

Fatty acids forming fats and waxes as well as squalene are essential components of human sebum, sebaceous glands secret. They are also included in many cosmetic compositions so they are entering in our organisms during skin care. We have very valuable addition in natural oils as we can see on the example of apricot oil represented by high phytosterol quantities and carotenoid presence. Those substances are very essential for us. But before describing their benefits in applications we must take into consideration one very typical and serious problem regarding with destruction of those biologically active substances. As well as we must explain some biochemical peculiarities which are particular characteristic for apricot oil, non available from other sources and giving us something useful in the framework of this problem as well as in some other aspects.

This problem involving in itself that all of the above mentioned useful substances digestibility may be interrupted by their oxidative destruction. This is observed in dietary oils application, but it is

essentially shaped in skin care. Although all of the above mentioned are antioxidants, but they are not so strong, so they are exhausting their potential rather fast applied on skin under UV sunlight. But we don't only have the lost of valuable substances. Some unsaturated fatty acids can form due to photo-oxidation some agents fastening skin photoageing! We can obtain opposite skin effects instead of moisturizing and rejuvenation. Sometimes we are dealing with such effects while using cosmetics with unarticulated composition. But all the problems disappear if those biologically active substances are protected by the most powerful antioxidants, tocochromanols, E group vitamins. They are specially added in cosmetics for this purpose, and nature watched out about of this in the case of the best among natural oils.

Apricot oils shows us superior properties within this viewpoint. A comparative study was performed in 2014 for some industrial samples of plant seeds nontraditional natural oils, namely: apricot kernels (*Prunus armeniaca*), wheat germ (*Triticum vulgare*), grape seeds (*Vitis vinifera*), and tomato seeds (*Lycopersicon esculentum*). All of them showed oxidative resistibility. Some of them slightly outnumbered tocochromanon content of apricot oil. But, in spite of this, apricot oil appeared to be the most resistive to oxidative destruction. Besides it showed the most photoprotective effects, as well as the best ability for prolonged preservation.

Those apricot oil cardinal benefits are explained by properties of its light ingredients consisting its essential oil. Their assemblage gives us some more benefits with no less importance. We have big quantities of very good natural solvents and preservation agents. The first instance substances are benzaldehyde, benzoic and cinnamic acids, their hydroxides-ed derivatives, and their esters, as well as other similar phenolic substances. Antioxidant tocochromanols properties are sharply expressed in this medium of natural solvents from apricot oil, which is resulting in upgraded oxidative resistibility. Also essential oil is the reason of apricot oil specific and very mild odor. But useful properties of those light ingredients are not limited by this described feature.

Firstly, this essential oil component is appearing to be an excellent carrier for heavier valuable substances. Their delivery to their targets in skin is performed rather faster and better, their bioavailability is upgraded. Hence apricot oil in the framework of medical prophylactic and cosmetology is often appears to be more even effective than ones with higher contents of active ingredients.

Secondly, benzaldehyde and similar substances of apricot essential oil are strong antimicrobial and antifungal agents. Inherently this is outgamed in traditional medicine in cases of inflectional skin diseases treatment with the help of apricot oil. Nevertheless this traditional medicine applications are standing modern scientific examination. For example relatively recent investigations in 2014 [7] confirmed high inhibitory activity of essential oil fraction from apricot kernel in liquid form and vapor against 15 kinds of pathogenic bacteria. Fraction contents were also studied in this investigation, it consists more than 90% of benzaldehyde and about 5% of benzoic acid, the rest is practically only phenolic compounds with even higher antimicrobial and antifungal capacity. Similar investigation confirms common apricot oil antimicrobial activity, as well as its antioxidant properties.

Besides those essential oil biologically active substances are very helpful for long apricot oil preservation as well as possessing anti-inflammatory activity which is an addition to the similar activity shown by common lipids of all natural oils.

Essential oil outlet is about 0.7 % from kernel mass, and total oil outlet appeared to be in wide range 20-60% from kernel mass. It is mentioned that higher oil outlet decreasing tocochromanon and carotenoid contents, i.e. value decreasing with outlet as well as it is appeared to be strongly strain dependent.

Apricot oil medical prophylactic and cosmetology properties, application recommendations

In skin care as well as in dietary use apricot oil lipids provides a number of very important dermatoprotective effects as well as serious general organism revitalization.

This is connected, besides of general skin barrier effect strengthening, decreasing of water loss and softening effect, firstly with cholesterol and steroid metabolism normalization. The role in this is performed by fatty acids and squalene, cholesterol precursor, which are represented in apricot oil contents as well as they are essential barrier agents of sebaceous glands secreting. But the most importance is connected with tocochromanols and phytosterols which are entered in skin particularly with oil.

All those biologically active substances are solving two main problems in this framework. Firstly cholesterol leakage in cell membranes is age developed, especially for skin keratinocytes. that is one of main deep reasons of skin ageing. As well as secondly and simultaneously so called "bad cholesterol" is accumulating on vascular walls, which is not delivered to cells suffering from its leakage as well as it is causing atherosclerosis and cardio-vascular risk.

An especial importance within this framework is connected with squalene and phytosterols of apricot oil. They are similar structural analogs of cholesterol but more active. They are ensuring sterol metabolism in skin as well as in the whole organism and they are providing lipidedical effects: eliminating of defective forms of cholesterol metabolism called "bad cholesterol", increasing of vitally important "good cholesterol", i.e. its metabolic normalization. Their high content in apricot oil was scientifically fixed quiet recent in 2017, the article name is oratorical: "Sterols and squalene in apricot (*Prunus armeniaca* L.) kernel oils: the variety as a key factor" [4].

Applying apricot oil in skin care you are slowing its ageing processes due to solving problems of its metabolism age degradation. Hence skin elasticity and tonus is increased as well as its wrinkles are eliminated. But besides of this you are preserving your organism in the whole from ageing and cardio-vascular risk. Since skin is important organism cholesterol simultaneous producer and consumer, cholesterol is transformed apart from everything else into vitally essential for us vitamin D3 during suntan process only in skin.

Also apricot oil provides vasoprotective effect due to above mentioned properties, i.e. means blood vessel wall protection, which helps to minimize risk of pathogenic vessel development, so called telangiectasias, and can eliminate them. Their external manifestation is couperosis, "star-shaped vessels" on skin. The described disorder as for vessels disposed lower is also one of many reasons of gynoid lipodystrophy, commonly known as cellulites. But besides telangiectasias are roots of more serious diseases without any visible external manifestations. Apricot oil protects us from all those troubles.

We must especially underline simultaneous presence in apricot oil of large quantities of oleic and palmitic acids, this is helpful for diacylglycerol (DAG) biosynthesis in organism. DAG is a diglyceride consisting those two fatty acids bonded to a glycerol molecule through ester linkages. It is a very important multifunctional metabolite. From the one hand it is a mediator of protein kinase C, i.e. protein starting regeneration mechanisms. From the other hand it is the base of cell membrane structural lipids. From the third hand it is an intermediate product of biosynthesis of arachidonic acid and other so called optionally essential polyunsaturated fatty acids biosynthesis of which in organism is interfered by a lot of difficulties and insufficient.

Hence apricot oil provides the most important metabolites for the whole organism and skin feeding, stimulating regeneration. Besides of this carotenoids, vitamin A provitamins, prevent xerodermia. This is pathological skin dryness and its hypertrophied keratinization, which is an implicative result of A avitaminosis. A vitamin is critically important for normal functioning of epithelium of any kinds, especially for skin and retina. In this framework lutein and zeaxantin containing in apricot oil are the subjects of the most importance. They can provide a lot of effects for visual function which are not available through other carotenoids. And in the whole apricot oil very valuable feed and medical prophylactic product not only for cosmetology, but for dietology also. Its food ingestion also provides dermatoprotecting effects, thus they are not so sharpened but more prolonged ones.

Among the number of apricot oil properties we must also mark the peculiarities with origins explained earlier due to properties of biologically active substances which are particularly characteristic to apricot essential oil. That are high penetrating capacity, antimicrobial and antifungal properties, capability to eliminate dandruff, pimples and cure other skin deceases. As well as we must mention strengthening of anti-inflammatory aspects, as well as strengthening of antioxidant properties, and we must especially underline direct consequence of the latter – powerful photoprotective effect. Apricot oil is capable to turn back the tide of skin photoageing i.e. its fragility, wrinkles, and excess pigmentation. Apricot oil is the most valuable for healthy, beautiful, and random suntan formation, as well as for prevention of sunburn and pathologic sunlight influence resulting in photoageing. **Apricot oil in pure form is the preferred product in professional massage procedures.**

Thus apricot oil is one of the most valuable as well as it is one of the most universal products for deltiology and cosmetology product. It is suitable for skin of any kinds without any limitations as well as it is suitable practically in any cases of its abnormalities, inflammations and diseases, it provides powerful dermatoprotective impact which is equally valuable against all kinds of climatic or any other hazard skin exposures.

Apricot oil is strongly recommended for face skin care, firstly for region under eyes which is very addicted to wrinkling, as well as for hair care, as well as for suntan improving and sunburn preventing, as well as in massage proceedings. Apricot oil is one of the best general skin care means targeted on its health improvement as the whole organism health care with capability to achieve rejuvenation impact.

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