

Oliwax is a new natural waxy lipid that is obtained 100% from ultra refined Olive Oil with an exclusive industrial manufacturing process.

The product has excellent reticulating properties and it is able to deliver active ingredients into the skin.

The product comes in flakes, odourless and colourless with a melting point at approximately 55° C as per our Technical Specification.

The very gentle manufacturing process allows the original characteristics of the starting natural raw material to remain intact.

Oliwax is stable to oxidation and it contains the **unsaponifiable** fraction of olive oil: one of the noblest part of the original olive oil that is very rich in **squalene**. **Squalene** is known to be contained in the human skin lipids too.

Considering the continuous requests of today's cosmetic market , we are proud to present a product to the industry that's complete natural origin is from olive oil.

OLIVE OIL is one of the lipids showing the highest compatibility with our skin, and its chemical composition is very similar to human skin lipids system. Our company, B&T Srl - Italy, is the first one world wide that has ever used the extraordinary properties of the Olive to build up a product line with excellent cosmetic functionality.

RETICULATING PROPERTIES

The Oliwax crystal network is able to contain at least 75% of lipid phase without lowering its melting point.

The reticulated oils enclosed in such crystal network becomes resistant to oxidation.

The added stability to oxidation is demonstrated by the Rancimat test: the oils reticulated by **Oliwax** have a Rancimat value at 80°C three times higher.

(See table I).

RANCIMAT TEST

Table I

Sweet Almond Oil %	OLIWAX %	Rancimat at 80°C(h)	Rancimat at 100°C(h)
100	0	6.0	4.5
90	10	6.5	7.0
75	25	12.0	10.0
60	40	13.5	12.0
50	50	15.0	12.0
40	60	18.0	15.0

The technique of “fractured frozen samples” shows how reticulating activity is still there at the highest lipid concentration, and finally how the added stability to oxidation is directly related to the wax reticulation property itself .

See the following picture, realised with a light scattering microscope:

Figure I

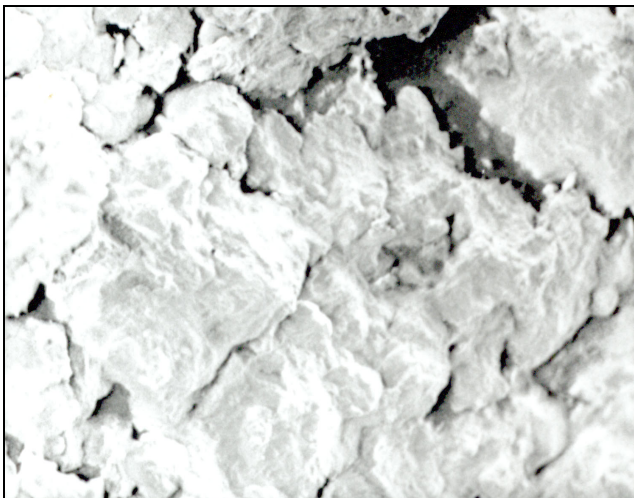


Figure II



The photos demonstrate how the reticulating structure of OLIWAX is able to encapsulate very high percentages of lipids (60 %).

Oliwax is rheological modifier for lipids.

It helps to build up the structure of the system increasing viscosity and stability of emulsions. The property mentioned above is combined with a good “delivery action” of lipids into the skin system, increasing penetration, absorption, and improving the after-use feel of final products.

Oliwax increases final viscosity without giving stickiness and whitening effect like many other common wax systems do. The addition of the Oliwax in the emulsions gives some peculiar properties, such as a very light and silky touch, smooth texture, excellent shine easy absorption and no greasiness.

Oliwax is also an **excellent moisturising** agent with exceptional spreadability and lubricity, and leaves a rich velvety non-oily feel on the skin while retarding water loss and enhancing the flexibility and suppleness of the skin.

For hair-care products it can reveal itself as a very useful ingredient, as many scalp related problems are caused by a hardened build-up of sebum that clogs the hair follicles therefore loosing ability to function properly.

Oliwax when used in hair care masks, rapidly penetrates down to the scalp and hair follicles leaving them clean and free to continue their normal function.

Oliwax can leave the hair clean and supple, while bringing shimmering and suppleness to them and because it's derived from Olive Oil it also has nice conditioning properties.

OLIWAX APPLICATIONS

In O/W products

Oliwax increases traditional O/W emulsions compatibility to skin's lipid system, no matter what emulsifying system is used.

It works with either traditional O/W emulsifiers or the more updated liquid crystal O/W emulsifiers.

It has a completely natural origin, in line with the request of today's market, and it **does not contain any PEG.**

Emulsions containing **Oliwax** have a light silky touch, good texture, and appear shiny, no matter what lipid phase is used.

It is also remarkable that the total lipid phase can be also lowered, with general cost benefits.

Oliwax contains the typical olive oil composition, including squalene, which is reported to be one of the ingredients found naturally in human skin.

Obviously this property will give the emulsion a very special touch due to the very high similarity of the olive with our skin.

Oliwax is also an excellent additive to use in order to increase stability of low viscous systems, or surfactant based system.

In W/O and W/S products

Oliwax increases W/O emulsions stability and viscosity, while providing the final after use feel without a greasy feeling and fast absorbed filmogen effect.

It can be employed for skin care as well as make-up application.

Since the world of make up is also turning to claims of skin care treatment **Oliwax** could find application in this area too.

Oliwax showed a very high compatibility with silconic emulsions.

It can be widely applied in any silicone formulas.

By combining silicon compound technology with natural triglycerides based structures, it improves the stability and the texture of emulsions allowing formulators to have very interesting final results

Several panel tests also showed how a small amount of **Oliwax** in W/S emulsions may improve the after use feel of the final product.

In hair-care products

The effects of Olive Oil on the hair as a softening and polishing treatment agent are well known and used since the ancient times.

In fact Olive Oil was one of the first products used on hair by ancient Egyptians.

The conditioning, substantively and lipid-layer enhancing activity of unsaponifiables from olive oil may be properly applied in hair-care preparations.

Oliwax can find its precise claims in rinsable hair-treatment creams, hair masks, and hair treatments and conditioning lotions as well.

SAFETY AND NO TOXICITY

Oliwax, such as all B&T products, **has not been tested on animals.**

It has been tested on human skin (for primary potential irritation: **PATCH TEST**)

Results show that the product can be classified as TOTALLY NOT IRRITATING on the skin.

From the results of the test performed on **Oliwax**, it can be concluded that the use of this ingredient in cosmetic formulations is absolutely safe.

• PATCH TEST

The primary irritation test has been done using **Oliwax** undiluted.

The test requires the application of an occlusive patch on the skin of the back on 20 healthy adult volunteers, and it is left there for 48 hours.

At the end of this period, the patch is removed and the conditions of the skin are evaluated after 15 minutes and after 24 hours from patch removing.

The results of this test have allowed us to classify this **product as NON IRRITANT.**

BIODEGRADABILITY

The determination of the biodegradability has been made according to the CEE regulation N. 82/242. OLIWAX is over 90 % biodegradable (OECD method).

CONCLUSIONS

Emulsions formulated with **Oliwax** appear creamy and shiny, they have quick absorption rate and have a silky texture, agreeable and original to the touch, particular if compared with similar formulas containing the same amount of traditional consistency factors such as beeswax.

Texture, shine and after use feel of products are improved by the presence of **Oliwax** in the formulas.

The suggested percentage of Oliwax is between the 1 and 10% according to the desired final viscosity.

It is compatible with O/W, W/O and W/S systems or surfactant based products.

Studies have been held on different structures, as you can find in the enclosed formulations.

FORMULATIONS

The following formulations indicate in order general directions for the employment of **Oliwax**.

Although they have been realised according to the best information we owe, this does not exonerate the user from verifying their validity.

B&T Technical Assistance is at the user's disposal in order to contribute to the development of new formulations, and to give the information as needed for correct use of our products.

Comparative Light Cream with OLIWAX		Comparative Light Cream with Beeswax	
	%		%
Phase A		Phase A	
Glyceryl Monostearate	3	Glyceryl Monostearate	3
Stearic Acid	1	Stearic Acid	1
Cetearyl Alcohol	1	Cetearyl Alcohol	1
Dimethicone	1.5	Dimethicone	1.5
Caprylic Capric Trygliceride	5	Caprylic Capric Trygliceride	5
Octylstearate	2.5	Octylstearate	2.5
C12-15 AlkylBenzoate	2.5	C12-15 AlkylBenzoate	2.5
OLIWAX	5	Beeswax	5
Phase B		Phase B	
Water	up to 100	Water	up to 100
Carbomer	0.2	Carbomer	0.2
Glycerin	3	Glycerin	3
Phase C		Phase C	
Sodium Hydroxyde	as needed	Sodium Hydroxyde	as needed
Phase D		Phase D	
Phenoxyethanol	as needed	Phenoxyethanol	as needed

Nourishing Age Cream	
	%
Phase A	
Polyglyceryl-3 Methylglucose Distearate	3
OLIVEM 700	3
C12-C15 Alkyl Benzoate	10
Grape Seed Oil	1.5
OLIWAX	4
Phase B	
Water	up to 100
Carbomer	0.1
Glycerin	1
Preservatives	as needed
Phase C	
Perfume	as needed
EUROL BT (Olive Leaf Extract)	0.2
Phase D	
Sodium Hydroxyde	as needed

Hydrating Fluid	
	%
Phase A	
OLIVEM 700	5
Cyclomethicone	5
OLIWAX	1
Corn Germ Oil	1
Phase B	
Water	up to 100
Acrylates/C10-30AlkylAcrylate Crosspolymer	0.2
Glycerin	3
Hyaluronic Acid	0.05
Phase C	
Perfume	as needed
EUROL BT (Olive Leaf Extract)	0.2
Phase D	
Perfume and preservatives	as needed

STABILITY TEST

30 ml samples of the emulsions have been stored at different temperatures, in order to observe an acceleration of the thermic degradation process.

The stability and the organoleptic characteristics of the samples has been observed at 40°C, 50°C, 4°C and room temperature with light exposure.

These tests predict quite well of the system's behaviour, and samples are considered "compliant to stability tests" (stability test passed) if there is no separation of phases, colour alteration odour modification, or unusual viscosity variations.

Trials have been made on emulsions at time "0" and after 3 months by centrifuge (centrifuge model ALC 4222) at 5000 rpm for 30 minutes.

TECHNICAL DATA SHEET

01. PRODUCT AND COMPANY IDENTIFICATION

Trade Name	: OLIWAX
Applications	: functional lipid wax 100% derived from olive oil
INCI Name	: HYDROGENATED OLIVE OIL, OLIVE OIL (OLEA EUROPAEA), OLIVE OIL UNSAPONIFIABLES
CAS Number	: 68334-28-1; 8001-25-0
EINECS Number	: 269-820-6 ; 232-277-0
Legislative Approval	: world-wide
Company	: B & T Srl - Via O. da Tresseno, 9 - 20127 MILAN - Italy
...	Tel. 0039.02 26142044 - Fax 0039.02.26142060

02. SPECIFICATIONS

Form @ 20°C	: solid, waxy in flakes
Color	: ivory
Odor	: slight, characteristic
Active Substance%	: 99.0 min
Water Content%	: <1.0
Melting Point	: 50 - 55°C
Acid Value	: 1 max

03. SOLUBILITY

Soluble	: in oils
Insoluble	: in water

04. TYPICAL VALUES

Specific Gravity @ 20°C	: 0.910 - 0.920 g/ml
Iodine Value	: 20 - 40
Additives and preservatives	: none

05. SHELF-LIFE

5 years stored unopened into original containers at a temperature between 5 and 35°C following GMP guidelines

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The information contained in this bulletin to the best of our knowledge is currently true and accurate. Any recommendations or suggestions are made without any warranty or guarantee, since conditions of use and storage are beyond your control.