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TECHNICAL DATA SHEET

VITIKARINE COMPLEX **(Lipid anti-aging Complex)** **/ A /**



Trade Name: VITIKARINE COMPLEX / A /.

Product Code: VITIKARAOVE.

INCI Name: VITIS VINIFERA SEED OIL, BUTYROSPERMUM PARKII BUTTER, UBIQUINONE, TOCOPHERYL ACETATE, RETINYL PALMITATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 85594-37-2 / 84929-27-1 / 8024-22-4; 194043-92-0 / 91080-23-8; 303-98-0 / 1339-63-5 / 60684-33-5; 7695-91-2 / 58-95-7; 79-81-2.

EC Number: 287-896-9 / 284-511-6; 606-306-6 / 293-515-7; 206-147-9 / 215-668-0; 231-710-0 / 200-405-4; 201-228-5.

Origin: VITIS VINIFERA SEED OIL: Vegetable origin.

BUTYROSPERMUM PARKII BUTTER: Vegetable origin.

UBIQUINONE: Fermentation.

TOCOPHERYL ACETATE, RETINYL PALMITATE: Synthetic origin.

Processing: GMO Free. / No Ethoxylation. / No Irradiation. / No Sulphonation. / No BSE/TSE. / No CMR. / No SVHC. / No Nanomaterial. / No DEG. / No DEHP. / No Formaldehyde. / No Phthalates. /

Additives: Preservatives: None. Preservative Free. /

Other additives: None.

Appearance: Solid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Specific gravity: 0,900 – 0,940 g/cm³ (40°C approx.).

Soluble/ Miscible: Organic solvents and lipids.

Ecological Information: Sustainable.

Microbial Count: Total aerobics: Max. 300 microorganisms / gram.

Fungi and yeasts: Max. 200 microorganisms / gram.

Pathogens: Total absence in 1 gram.

Suggested Use Levels: 2,0 – 10,0%.

Suggested Applications: Dry, aged, irritated or sensitive skin. Sunscreen and after-sun products. Protective lipsticks. Hair treatments, like balms and masks.

Properties: Emollient, soothing, protective, nourishing, anti-aging and fattening.

Industrial packing: 1Kg., 5Kg., 25Kg., 200Kg.

Storage conditions: It is very important to keep the product in well closed containers, away from direct sunlight at temperatures not over 25°C. In case of not having refrigerators, store the product in the coolest and free from artificial light area.

Bibliography: - Atlas Ilustrado de Plantas Medicinales y Curativas, Ed. Susaeta.

- Dumont's grosse Kräuter Enzyklopädie.

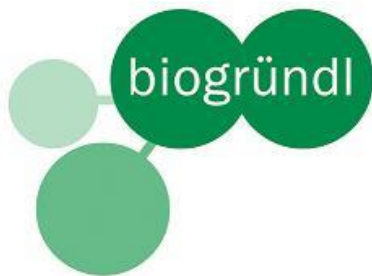
- Fitocosmeticos ALVAREZ CRUZ i BAGUE SERRANO.

- Gran enciclopedia de las plantas medicinales, BERDONCES i SERRA.

- Plantas medicinales, FONT i QUER.

- Proserpio G., Martelli A., Patri GF.; Elementi di Fitocosmeci; Ed. Sepem / Milano 1983.

- Websites.



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OVERVIEW

VITIKARINE COMPLEX by BIOGRÜNDL, S.L. is a fatty base to include in emulsions, ointments or lipsticks intended for regeneration and biostimulation of all types of skin, specially, of those very dry, dehydrated in depth, aged or subjected to extreme environmental conditions.

The composition of VITIKARINE COMPLEX by BIOGRÜNDL, S.L. includes the following active ingredients:

- **Grape seed oil**, obtained from the seeds of grape (*Vitis vinifera*), it is very rich in polyunsaturated fatty acids (F vitamin), specially linoleic acid, containing between 55 and 70%. It is removed by cold-pressure that also drags other seed components, such as polyphenols and trans-resveratrol.

Polyphenols are oligomeric proanthocians (OPC), which are derivatives from catechines (flavan-3-ol) and leucoanthocians (flavan-3,4-diol) (Figures 1. and 2.).

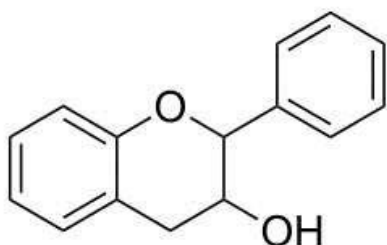


Figure 1. Flavan-3-ol

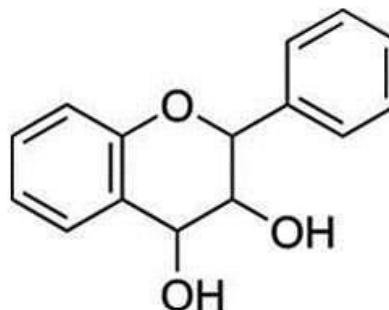


Figure 2. Flavan-3,4-diol

The most outstanding action of bioflavonoids is its strong reducing character, and today, they represent the most effective neutralizing agents of oxydant free radicals from vegetable origin. In addition, due to its chemical structure, can pass through cell membranes, and thus, neutralize free radicals, lipo or water-soluble, in the protoplasm and nucleus of cells. It is also shown that the scleroproteins that form connective tissue (collagen, elastin) are protected by bioflavonoids from the attack of free radicals and enzymes which degrade them (collagenases and elastases). Bioflavonoids also have an effect of vitamin P on the blood capillaries that regulate the permeability and decrease their fragility.

TECHNICAL DATA SHEET

They have also, anti-inflammatory, antiedematous and protective properties. They increase, significantly, the immune response and act on skin hyperchromic spots.

Trans-Resveratrol, on the other hand, is a potent phytoestrogen from polyphenol nature (Figure 3.).

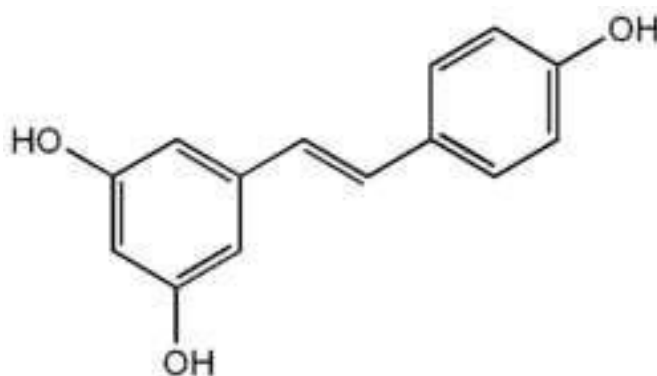
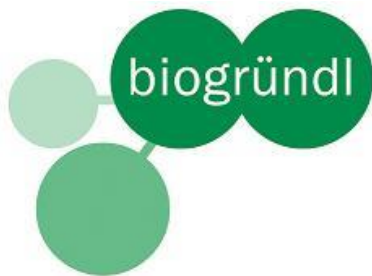


Figure 3. TRANS-RESVERATROL

Many are the physiological benefits of resveratrol. Referring only to skin tissue, it is proven that it regulates the activity of sebaceous glands, it acts on seborrheic and acneic symptoms, delays the manifestations of aging and its strong reducing character has positive effects on oxidative stress. Also, it increases the immune response and acts on the spots of the skin.

- **Shea Butter**, is extracted from the seeds of *Butyrospermum* (*Butyrospermum parkii*), a tree belonging to the Sapotaceae family, which grows in central Africa. The seed, size of a walnut, contains 50% lipids extracted by pressure.

One of the characteristics of the Shea Butter is its high content in unsaponifiable, which makes it of great interest in the field of cosmetics and dermatology.



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The most outstanding effects of Shea Butter can be summarized as follows:

- Emollient for skin and hair.
- Soothing for wounds.
- Protector against UV radiation and other harmful agents.
- Nourishing.
- Anti-aging.
- Re-fattening.

Its use is recommended in the treatment of dry, aged, irritated, or sensitive skin; also, with wounds and bruises. As fat component in sunscreen and after-sun products, as well as, in protective lipsticks. Very useful, also, in hair treatments, such as balms and masks.

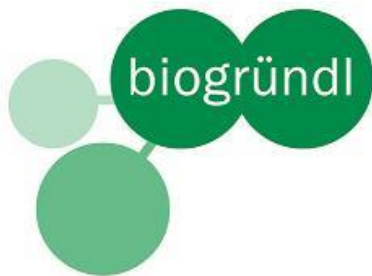
- **Coenzyme Q-10**, also known as ubiquinone, because of its ubiquity, since it is present in all cells of the body; in fact, almost in all the energy produced, coenzyme Q-10 is directly involved.

With age and adverse environmental conditions, the amount of coenzyme Q-10 present in the cells, progressively decreases. In the skin, this reduction may be offset, at least partially, with an external input. Thus, an increase of metabolism, stimulation of vital functions, as well as, antioxidant and antiradical effect is achieved.

- **A + E vitamin complex**, two antioxidant vitamins which act as a protective shield against oxidative stress, one of the most influential and decisive factor to advance skin aging.

USE AND DOSAGE

The recommended concentrations of use are between 2% and 10%. For very special effects the dosage can raise up to 15%.



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PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Melting point: 33 – 42° C.

Specific gravity: 0,900 - 0,940 g/cm³ (at 40°C approx.).

Solubility in water: Fully insoluble.

Solubility in other solvents: Soluble in organic solvents and lipids. Insoluble in surfactants and in hydroalcoholic, hydroglyceric and hydroglycollic mixtures.

Acid value: Less than 5.0 mg.KOH/g.

Saponification value: 180 to 200 mg.KOH/g.

Iodine value: 125 to 140 g.I₂/100g.

Unsaponifiable: Min. 2%.

Heavy metals: No more than 5 mg/Kg.

Sulfated ash: No more than 0,01%.

Chlorides: No more than 0,007%.

Sulfates: No more than 0,002%.

Other information: None.

Total aerobics: Max. 300 microorganisms / gram.

Fungi and yeasts: Max. 200 microorganisms / gram.

Pathogens: Total absence in 1g.

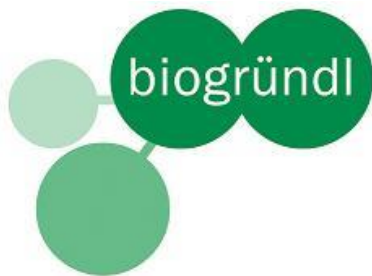
DERMATOLOGY INNOCUOUSNESS

It was performed by the patch test (Patch test) on 10 volunteers. To this purpose, 15% VITIKARINE COMPLEX by BIOGRÜNDL, S.L., was added to an O/W emulsion; 0,5g. of this emulsion was poured over the patch and attached on the forearm. It is thus maintained for 24, 48 and 72 hours, after which, the given reaction was evaluated, according to the following table of values:

1. No erythema
2. Slight erythema
3. Well defined erythema
4. Severe erythema

The result was absence of erythema on the 10 volunteers.

On the recommended concentrations, the product is skin innocuous.



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STORAGE CONDITIONS

It is very important to keep the product in well closed containers, away from direct sunlight and at temperatures not over 25°C. In case of not having refrigerators, store the product in the coolest and free from artificial light area.

INCI DENOMINATION

VITIS VINIFERA SEED OIL, BUTYROSPERMUM PARKII BUTTER, UBIQUINONE, TOCOPHERYL ACETATE, RETINYL PALMITATE.

EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Refattening action.

N (volunteers): 30 (20 ♀ and 10 ♂).

Age (volunteers): 35 – 73 years old.

Left side part to be treated:

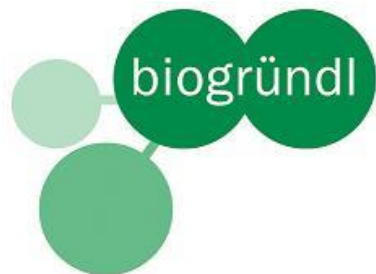
Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

VITIKARINE COMPLEX 2%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

VITIKARINE COMPLEX 5%, 15 volunteers, suitable cosmetic base.

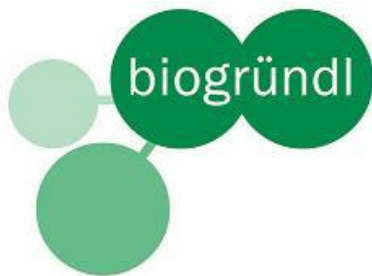


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Assayed parameters:

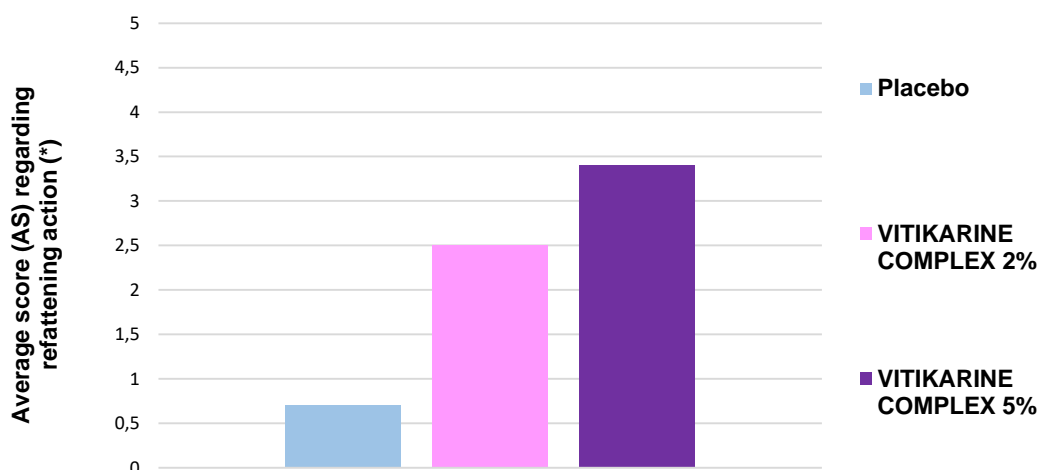
	Assay	N (volunteers)	Age (volunteers)	Placebo	VITIKARINE COMPLEX 2%	VITIKARINE COMPLEX 5%	Assay performed (Days)	Results measured (Days)
Refattening action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 20 ♀ 10 ♂	35 - 73	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1



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SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Refattening action was determined by quantification of fat contained in volunteers face.

Total number of days in which the assay was performed (treatment was applied):
D = 30 days (every day during the effectiveness test).

Total number of days in which the results were measured:
D' = 1 day (effectiveness test last day).

Average score:

Worst result: Zero limit value is assigned.

Best result: Five limit value is assigned.

Score is assigned to obtained results between the two limit values.

Average computation for each obtained results group is done:

Placebo, 2% VITIKARINE COMPLEX by BIOGRÜNDL, S.L., 5% VITIKARINE COMPLEX by BIOGRÜNDL, S.L..

Results meaning:

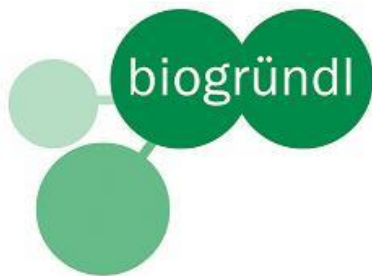
AS rank between 0 – 1: No significant changes.

AS rank between 1 – 2: Slight improvement regarding placebo.

AS rank between 2 – 3: Appreciable improvement regarding placebo.

AS rank between 3 – 4: Great improvement regarding placebo.

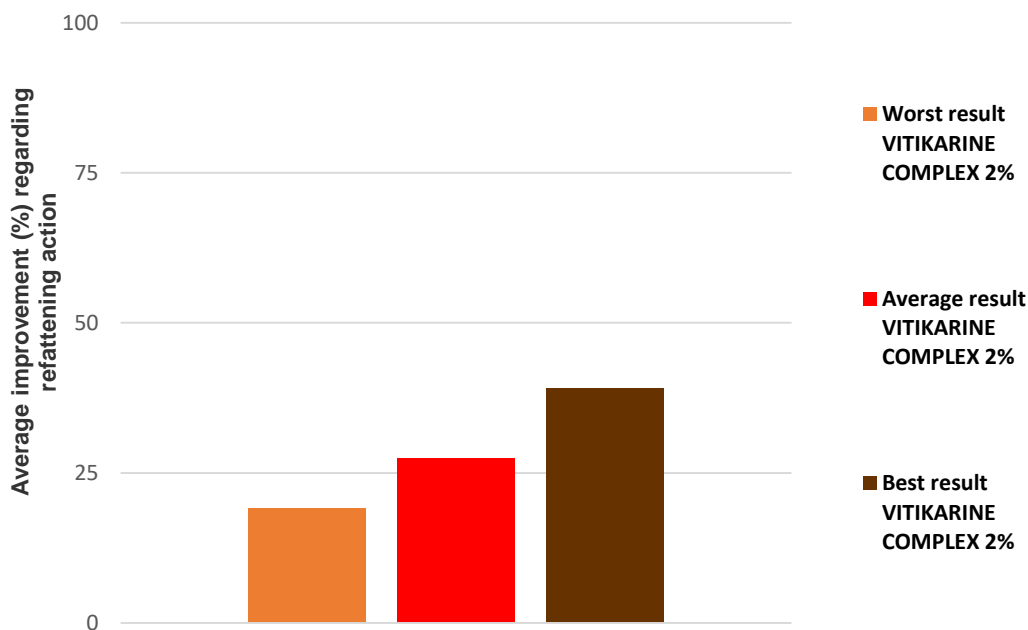
AS rank between 4 – 5: Excellent cosmetic result.



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VITIKARINE COMPLEX 2%

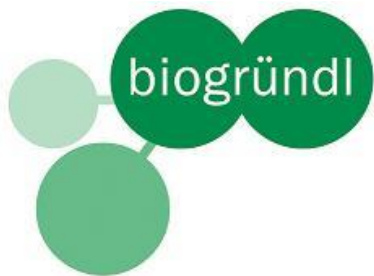


Results:

Worst result VITIKARINE COMPLEX 2%: 19%.
Average result VITIKARINE COMPLEX 2%: 27,5%.
Best result VITIKARINE COMPLEX 2%: 39%.

Results meaning:

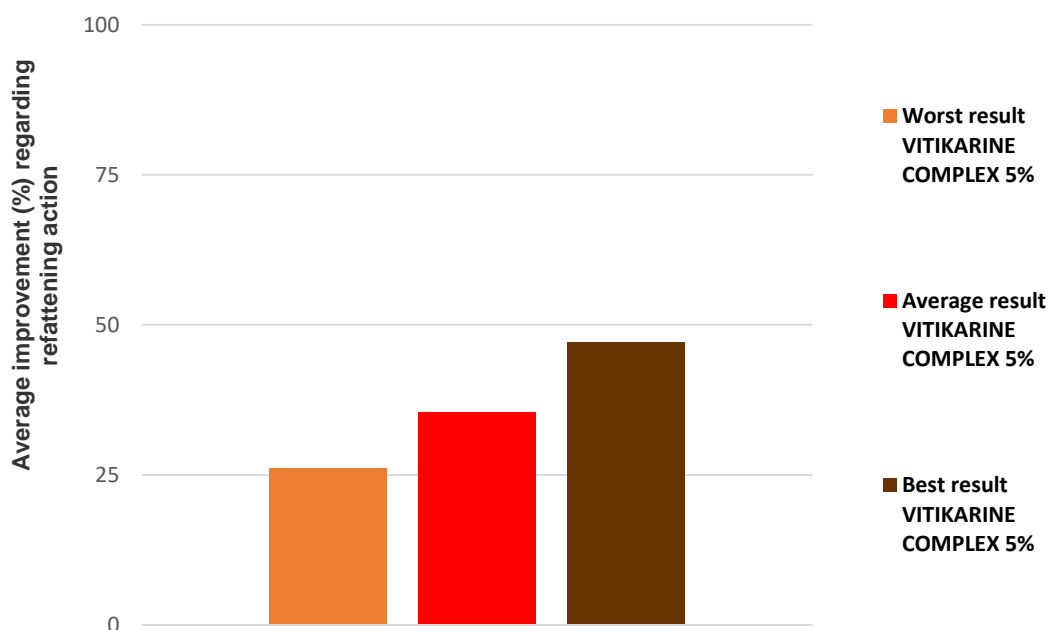
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.



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VITIKARINE COMPLEX 5%



Results:

Worst result VITIKARINE COMPLEX 5%: 26%.

Average result VITIKARINE COMPLEX 5%: 35,5%.

Best result VITIKARINE COMPLEX 5%: 47%.

Results meaning:

AI rank between < 20%: No significant changes.

AI rank between 21 – 40%: Slight improvement regarding placebo.

AI rank between 41 – 60%: Appreciable improvement regarding placebo.

AI rank between 61 – 80%: Great improvement regarding placebo.

AI rank between > 81%: Excellent cosmetic result.