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TECHNICAL DATA SHEET

VITASOL VITAMIN COMPLEX / A / HGA / CA11 /



Trade Name: VITASOL VITAMIN COMPLEX / A / HGA / CA11 /.

Product Code: CVVAHGACA11.

INCI Name: AQUA, PROPYLENE GLYCOL, ISOPROPYL ALCOHOL, FAEX EXTRACT, PEG-40 HYDROGENATED CASTOR OIL, TOCOPHERYL ACETATE, POTASSIUM SORBATE, RETINYL PALMITATE, ASCORBYL PALMITATE, BIOFLAVONOIDS, ETHYL LINOLEATE, ETHYL LINOLENATE, ETHYL OLEATE, NIACINAMIDE, PANTHENOL, INOSITOL, RIBOFLAVIN, BIOTIN, THIAMINE HCL, PYRIDOXINE HCL, CYANOCOBALAMIN.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 57-55-6; 67-63-0; 8013-01-2; 61788-85-0; 7695-91-2 / 58-95-7; 24634-61-5/ 590-00-1; 79-81-2; 137-66-6; 61788-55-4; 544-35-4; 1191-41-9; 111-62-6; 98-92-0; 81-13-0 / 16485-10-2; 87-89-8; 83-88-5; 58-85-5; 67-03-8; 58-56-0 / 12001-77-3; 68-19-9.

EC Number: 231-791-2; 200-338-0; 200-661-7; 232-387-9; No disponible; 231-710-0 / 200-405-4; 246-376-1; 201-228-5; 205-305-4; No disponible; 208-868-4; 214-734-6; 203-889-5; 202-713-4; 201-327-3 / 240-540-6; 201-781-2; 201-507-1; 200-399-3; 200-641-8; 200-386-2; 200-680-0.

Origin: PROPYLENE GLYCOL: Petrochemical origin.

ISOPROPYL ALCOHOL, TOCOPHERYL ACETATE, POTASSIUM SORBATE, RETINYL PALMITATE, ASCORBYL PALMITATE, NIACINAMIDE, PANTHENOL, BIOTIN, THIAMINE HCL, PYRIDOXINE HCL: Synthetic origin.

FAEX EXTRACT, BIOFLAVONOIDS, ETHYL LINOLEATE, ETHYL LINOLENATE, ETHYL OLEATE, INOSITOL: Vegetable origin.

PEG-40 HYDROGENATED CASTOR OIL: Synthetic-vegetable origin.

RIBOFLAVIN, CYANOCOBALAMIN: Fermentation.

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: Potassium sorbate. Paraben Free. / Antioxidants: None. / Other additives: None.

Solvents Used: Water, propylene glycol and isopropyl alcohol.

Appearance: Clear or slightly opalescent liquid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Specific gravity: 1,000 - 1,080 g/cm³ (20°C approx.).

Direct pH value: 4,5 - 6,5 (20°C approx.).

Soluble/ Miscible: Water. Surfactants. Hydroalcoholic, hydroglyceric and hydroglycolic mixtures.

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: Care cosmetic preparations for skin, hair and nails.

Properties: Anti-wrinkle, anti-age, UV radiation protective.

Industrial packing: 1Kg., 5Kg., 25Kg., 225Kg.

Storage conditions: It is very important to keep the product in well closed containers, away from direct sunlight at temperatures not over 15°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.

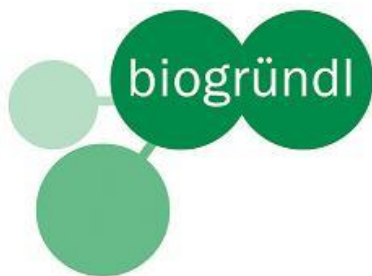
- Fitocosmeticos ALVAREZ CRUZ i BAGUE SERRANO.

- 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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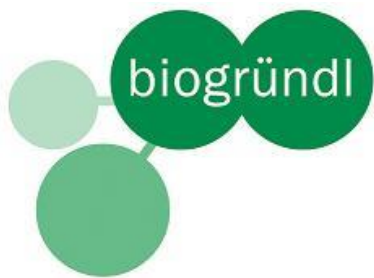
OVERVIEW

VITASOL VITAMIN COMPLEX by BIOGRÜNDL, S.L. brings together in one preparation liposoluble and water-soluble vitamins; thereby, facilitating their use in products with aqueous, hydroglycolic, hydroglyceric, hydroalcoholic vehicles and emulsions of any kind.

Its composition is as follows:

- A vitamin (retinyl palmitate form).
- B₁ vitamin (thiamine or aneurin).
- B₂ vitamin (riboflavin).
- B₃ or PP vitamin (nicotinamide).
- B₅ vitamin (panthenol).
- B₆ vitamin (pyridoxine)
- B₇ vitamin (biotin).
- B₈ vitamin (inositol).
- B₁₂ vitamin (cyanocobalamin).
- C vitamin (ascorbyl palmitate form).
- E vitamin (tocopheryl acetate form).
- F vitamin (essential fatty acids form: linoleic, linolenic and oleic).
- P vitamin (bioflavonoids).

- A Vitamin, in retinyl palmitate form, more stable than the free alcohol. Promotes cell renewal and regulates skin keratinization.
- B₁ Vitamin (thiamine or aneurin), it is very soluble in water and stable at processing temperatures but decomposes in the presence of oxidants, reducers and alkalis; it precipitates in the presence of tannins. It plays an important role in the metabolism of carbohydrates and in the synthesis of certain proteins and lipids.
- B₂ Vitamin (riboflavin), it is yellow colour, slightly soluble in water and stable at processing temperatures in acid medium (up to 6.5); it is decomposed by the action of UV radiation. Being part of oxide-reductases, which is of great importance in the overall processes of the body, and particularly, of growth process. Its deficiency states are manifested in skin disturbances such as seborrhea, dermatitis and dandruff.



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- B₃ or PP Vitamin (nicotinamide), it is water soluble and stable under normal processing conditions. It has an important role as acceptor and donor of protons. It is involved in the formation of hair.
- B₅ Vitamin or panthenol and B₈ or inositol, belong to B group of vitamins and are crucial to prevent seborrheic and inflammatory skin disorders.
- B₆ Vitamin (pyridoxine). It has a great importance in oxidation-reduction reactions of the body and it is involved in the metabolism of the skin, being recognized its protective of UV radiation, antisensitizing and antiseborrheic properties.
- B₇ Vitamin (biotin), also known as H vitamin, is poorly water soluble, heat stable and sensitive to UV radiation. It is crucial in carboxylation and transcarboxylation reactions. Its deficiency states are manifested by an acceleration of hair loss, hyperkeratosis, acanthosis and follicular dilatation.
- B₁₂ Vitamin, also known as cyanocobalamin, containing cobalt in its molecule, it is quite soluble in water and stable at normal processing conditions. Its deficiency states cause pernicious anemia, dermatitis, changes in skin tissues and nervous system degeneration.
- C Vitamin, in ascorbyl palmitate form, which penetrates deeper into the skin and has improved stability against oxidation than ascorbic acid.
- E Vitamin, in tocopheryl acetate form, also more stable than the free tocopherol. It is a great activating of the skin metabolism, which promotes regeneration of the skin and its exoskeleton.
- F Vitamin, regulates lipid metabolism at skin level. Its deficiency leads to exaggerated states of dryness and flaking. Chemically it is a mixture of essential fatty acids (linoleic, linolenic and oleic).
- P Vitamin, chemically corresponds to a mixture of bioflavonoids. Promotes permeability at capillary level and acts as a vasodilator, thereby increasing blood flow and dermal metabolism.



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USE AND DOSAGE

VITASOL VITAMIN COMPLEX by BIOGRÜNDL, S.L., is a multivitamin mixture that allows easy incorporation of water-soluble and liposoluble vitamins in cosmetic preparations for skin, hair and nails care.

If turbidity is observed, it is advisable to previously dissolve the product in a portion of the water provided to manufacture the final product and filter after 12-24 hours.

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

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear or slightly opalescent liquid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Direct pH value: 4,5 - 6,5 (20°C approx.).

Specific gravity: 1,000 - 1,080 g/cm³ (20°C approx.).

Solubility in water: Fully soluble (20°C approx.).

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

Heavy metals: No more than 5 mg/Kg.

Sulfated ash: No more than 0,01%.

Chlorides: No more than 0,007%.

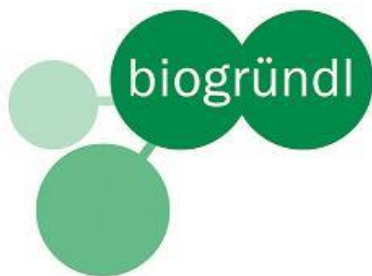
Sulfates: No more than 0,002%.

Other information: None.

Total aerobics: Max. 300 microorganisms / gram.

Fungi and yeasts: Max. 200 microorganisms / gram.

Pathogens: Total absence in 1 gram.



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DERMATOLOGY INNOCUOUSNESS

It was performed by the patch test (Patch test) on 10 volunteers. To this purpose, 15% VITASOL VITAMIN 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.

STORAGE CONDITIONS

It is very important to keep the product in well closed containers, away from direct sunlight at temperatures not over 15°C. In case of not having refrigerators, store the product in the coolest and free from artificial light area.

INCI DENOMINATION

AQUA, PROPYLENE GLYCOL, ISOPROPYL ALCOHOL, FAEX EXTRACT, PEG-40 HYDROGENATED CASTOR OIL, TOCOPHERYL ACETATE, POTASSIUM SORBATE, RETINYL PALMITATE, ASCORBYL PALMITATE, BIOFLAVONOIDS, ETHYL LINOLEATE, ETHYL LINOLENATE, ETHYL OLEATE, NIACINAMIDE, PANTHENOL, INOSITOL, RIBOFLAVIN, BIOTIN, THIAMINE HCL, PYRIDOXINE HCL, CYANOCOBALAMIN.



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EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Anti-hair loss action.

N (volunteers): 30 (8 ♀ and 22 ♂).

Age (volunteers): 35 - 63 years old.

Left side part to be treated:

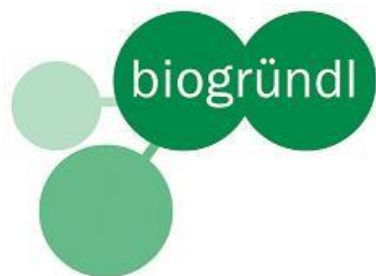
Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

VITASOL VITAMIN COMPLEX 2%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

VITASOL VITAMIN COMPLEX 5%, 15 volunteers, suitable cosmetic base.

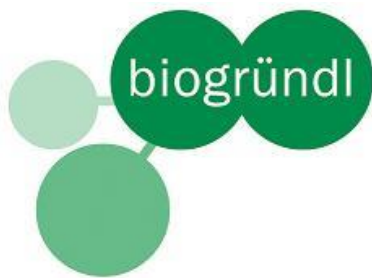


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Assayed parameters:

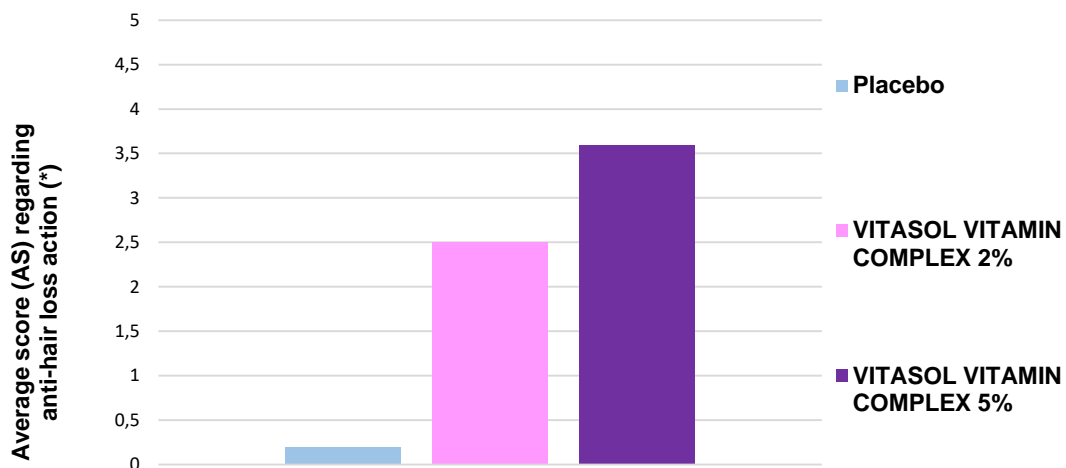
	Assay	N (volunteers)	Age (volunteers)	Placebo	VITASOL VITAMIN COMPLEX 2%	VITASOL VITAMIN COMPLEX 5%	Assay performed (Days)	Results measured (Days)
Anti-hair loss action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 8 ♀ 22 ♂	35 - 63	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 10	D' = 1



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HAIR/SCALP CONDITION EVALUATION AFTER 30 DAYS



(*) Anti-hair loss action was determined by hair amount quantification collected in a brush or a comb, from volunteers.

Total number of days in which the assay was performed (treatment was applied):
D = 10 days (every three days 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% VITASOL VITAMIN COMPLEX by BIOGRÜNDL, S.L., 5% VITASOL VITAMIN 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.

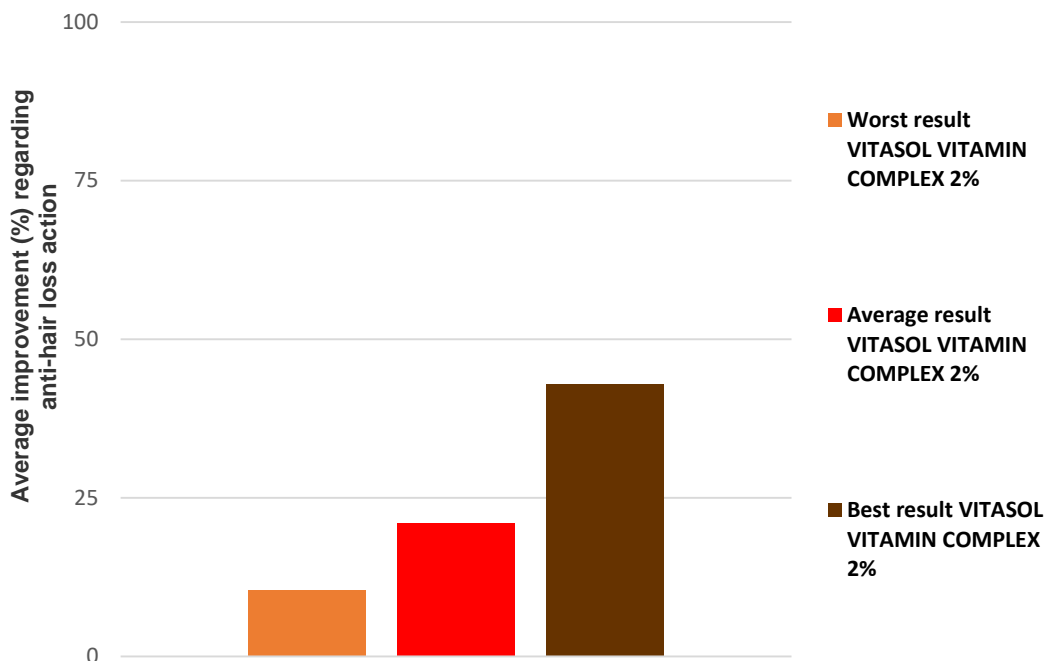
AS rank between 4 – 5: Excellent cosmetic result.



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VITASOL VITAMIN COMPLEX 2%



Results:

Worst result VITASOL VITAMIN COMPLEX 2%: 10,5%.
Average result VITASOL VITAMIN COMPLEX 2%: 21%.
Best result VITASOL VITAMIN COMPLEX 2%: 43%.

Results meaning:

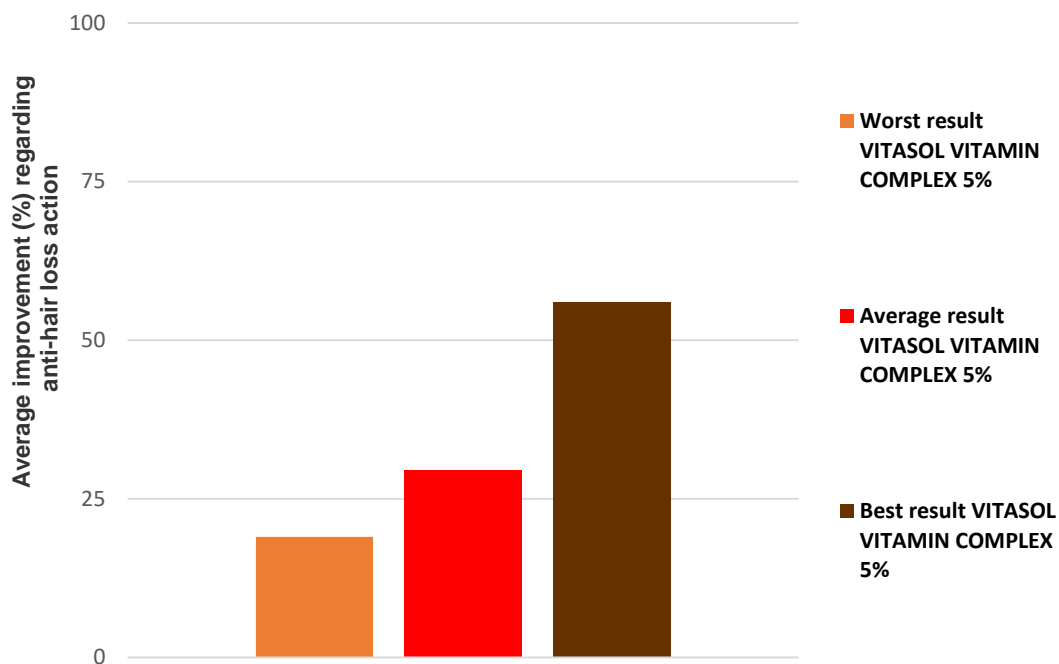
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.



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VITASOL VITAMIN COMPLEX 5%



Results:

Worst result VITASOL VITAMIN COMPLEX 5%: 19%.
Average result VITASOL VITAMIN COMPLEX 5%: 29,5%.
Best result VITASOL VITAMIN COMPLEX 5%: 56%.

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.