



BIOGRÜNDL, S.L.
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TECHNICAL DATA SHEET

HAIR LOSS COMPLEX (8 Vitamins) **Hair Root Stimulant and Regenerator** **/ A / HGL / CA11 /**



Trade Name: HAIR LOSS COMPLEX (8 Vitamins) / A / HGL / CA11 /

Product Code: C8VAHGLCA11.

INCI Name: AQUA, GLYCERIN, FAEX EXTRACT, GLYCINE SOJA GERM EXTRACT, HYDROLYZED KERATIN, POTASSIUM SORBATE, GLYCOSAMINOGLYCANS, INOSITOL, PANTHENOL, BIOTIN, NIACINAMIDE, THIAMINE HCL, PYRIDOXINE HCL, INOSINE, RIBOFLAVIN, CYANOCOBALAMIN, CALCIUM SULFATE, MAGNESIUM SULFATE, COPPER SULFATE, POTASSIUM SULFATE, ZINC SULFATE, MANGANESE SULFATE, FERRIC SULFATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 8013-01-2; 84776-91-0; 69430-36-0; 94945-04-7; 24634-61-5 / 590-00-1; 81-13-0 / 16485-10-2; 58-85-5; 87-89-8; 98-92-0; 67-03-8; 58-56-0 / 12001-77-3; 58-63-9; 83-88-5; 68-19-9; 7778-18-9; 7487-88-9; 7758-98-7; 7778-80-5; 7446-19-7 / 7733-02-0 / 7746-20-0; 7785-87-7 / 10124-55-7; 10028-22-5.

EC Number: 231-791-2; 200-289-5; 232-387-9; 921-078-0; 274-001-1; 305-682-6; 246-376-1; 201-327-3 / 240-540-6; 200-399-3; 201-781-2; 202-713-4; 200-641-8; 200-386-2; 200-390-6; 201-507-1; 200-680-0; 231-900-3; 231-298-2; 231-847-6; 231-915-5; 231-793-3; 232-089-9 / 233-342-6; 233-072-9.

Origin: GLYCERIN: Vegetable origin.

FAEX EXTRACT, GLYCINE SOJA GERM EXTRACT, INOSITOL: Vegetable origin.

POTASSIUM SORBATE, PANTHENOL, BIOTIN, NIACINAMIDE, THIAMINE HCL, PYRIDOXINE HCL, INOSINE, COPPER SULFATE, POTASSIUM SULFATE, ZINC SULFATE, MANGANESE SULFATE, FERRIC SULFATE: Synthetic origin.

HYDROLYZED KERATIN: Animal origin.

GLYCOSAMINOGLYCANS: Animal origin (shark).

RIBOFLAVIN, CYANOCOBALAMIN: Fermentation.

CALCIUM SULFATE: Mineral origin.

MAGNESIUM SULFATE: Inorganic 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: Potassium sorbate. Paraben Free. / Antioxidants: None. / Other additives: None.

Solvents Used: Water and glycerin.

Appearance: Clear or slightly opalescent liquid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Specific gravity: 1,000 - 1,300 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.

Suggested Use Levels: 2,0 – 10,0%.

Suggested Applications: Against early hair loss preparations. Lotions. Shampoos. Balsams. Masks. Hair fortifying products.

Properties: Anti-hair loss and hair fortifying.

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

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.

- Fitocosméticos 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

HAIR LOSS COMPLEX (8 vitamins) by BIOGRÜNDL, S.L. is one of the latest advances in the most recent research achievements on hair dysfunctions. It helps prevent hair loss and has regenerative action based on the following active substances:

- Gründinol, a potent growth factor, developed by BIOGRÜNDL, S.L. It is a complex formed by hypoxanthine-riboside and inositol (Figure 1.). It activates scalp metabolism and has clear action against lipotrophic dysfunctions, encouraging keratin synthesis in detriment of that of lipids, which contributes, decisively, to the strengthening of hair.

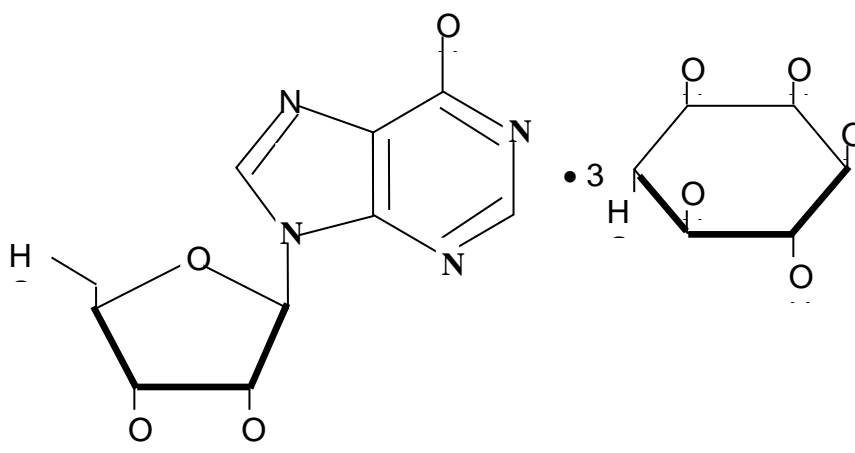


Figure 1. GRÜNDINOL

- Phytoestrogens, obtained by selective extraction of soy germs, very rich in isoflavones. They exert on hair similar effects to the ones caused by animal origin strogens, without causing the undesired and dangerous actions of these. They stimulate the proliferation of fibroblasts in the scalp and delay the destruction of its essential components: elastin, collagen and mucopolysaccharides. Besides, due to polyphenolic nature they done, they present strong reducer power, that is the reason why they exercise effective protection against oxidative stress and free radicals.
- Vitamins from B group, set of water soluble vitamins (B₁, B₂, B₃, B₅, B₆, B₇, B₈ B₁₂) which are obtained from beer yeast, since it is extraordinarily rich in them. It is a great advantage, that at the moment these vitamins are extracted, they come together with other non-vitamin substances which have remarkable and tested regenerative and nutritive power. Both group B vitamins and yeast extract are excellent regulators of sebum production, this fact has positive influence in hair los prevention.



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- Trace elements, obtained from clay and combined with proteins in order to achieve a deeper and faster absorption. They inhibit the 5-alpha-reductase enzyme, leading to the delay of testosterone reduction to dihydrotestosterone. This last one influences, specially, on the metabolic balance of the hair follicle, since it produces greater formation of sebum at the expense of keratin. As a consequence, hair gets greasy and weakens progressively, becoming fuzz.
- Trichosaccharides, are sulphur-mucopolysaccharides which exert clear action over the fibroblasts of hair follicle, where the keratin is formed, essential component of hair; that is to say, they can be considered as trichogenes. They also contribute to hair hydration and regeneration. On one hand, these properties are due to its strong negative charge, on the other hand, to the fact that carboxyl and sulphate groups can be joined by chemical link with the free amino remains of hair keratin, thus repairing fissures in its structure.
- Trichoepptides, obtained by means of nearly complete hydrolysis of keratin. Due to its high content in cystine and glutamic acid, they are fixed to the free ends of hair keratin, formed as a consequence of degrading action of unfavorable environment or to very strong hair treatments; such free ends are, in this way, recomposed and keratin is restructured.
On the other hand, trichoepptides accelerate the renewal of scalp cells, restoring its normal metabolism. This action results in a remarkable reinvigoration of hair from root to tip, acting against loss and favoring growth.

USE AND DOSAGE

The incorporation in cosmetics of HAIR LOSS COMPLEX (8 Vitamins) by BIOGRÜNDL, S.L. is justified by its anti-hair loss, anti-seborrheic and hair fortifying properties.

HAIR LOSS COMPLEX (8 vitamins) by BIOGRÜNDL, S.L. is indicated in anti-hair loss and anti-seborrheic preparations; added to lotions, shampoos, balsams and masks. Likewise, it can be applied on any type of hair as a preventive and strengthener plan.

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 25%.



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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 - 1,300 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.

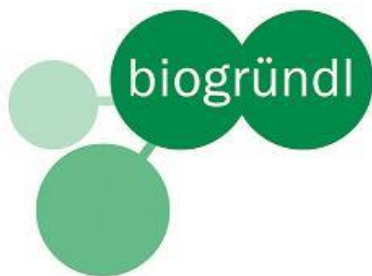
DERMATOLOGY INNOCUOUSNESS

It was performed by the patch test (Patch test) on 10 volunteers. To this purpose, 25% HAIR LOSS COMPLEX (8 Vitamins) by BIOGRÜNDL, S.L., was added to a surfactant base; 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 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, GLYCERIN, FAEX EXTRACT, GLYCINE SOJA GERM EXTRACT, HYDROLYZED KERATIN, POTASSIUM SORBATE, INOSITOL, GLYCOSAMINOGLYCANS, PANTHENOL, BIOTIN, NIACINAMIDE, THIAMINE HCL, PYRIDOXINE HCL, INOSINE, RIBOFLAVIN, CYANOCOBALAMIN, CALCIUM SULFATE, MAGNESIUM SULFATE, COPPER SULFATE, POTASSIUM SULFATE, ZINC SULFATE, MANGANESE SULFATE, FERRIC SULFATE.

EFFECTIVENESS TEST

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Anti-hair loss action.

N (volunteers): 30 (17 ♀ and 13 ♂).

Age (volunteers): 19 – 67 years old.

Left side part to be treated:

Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

HAIR LOSS COMPLEX (8 Vitamins) 2%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

HAIR LOSS COMPLEX (8 Vitamins) 5%, 15 volunteers, suitable cosmetic base.

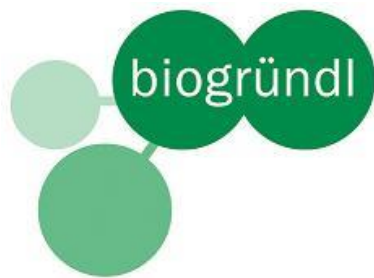


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Assayed parameters:

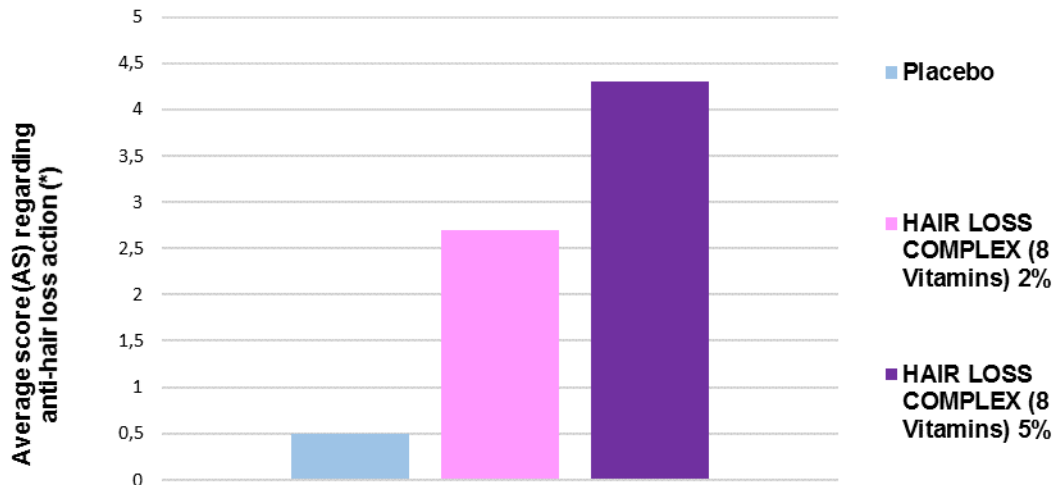
	Assay	N (volunteers)	Age (volunteers)	Placebo	HAIR LOSS COMPLEX (8 Vitamins) 2%	HAIR LOSS COMPLEX (8 Vitamins) 5%	Assay performed (Days)	Results measured (Days)
Anti-hair loss action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 17 ♀ and 13 ♂	19 – 67	Left side part	Right side part 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% HAIR LOSS COMPLEX (8 Vitamins) by BIOGRÜNDL, S.L., 5% HAIR LOSS COMPLEX (8 Vitamins) by BIOGRÜNDL, S.L..

Results meaning:

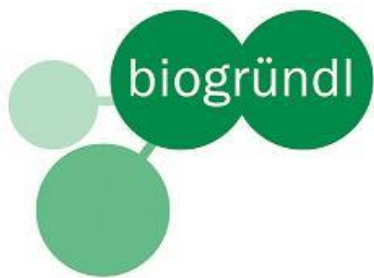
AS rank between 0 – 1: No significant changes.

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.

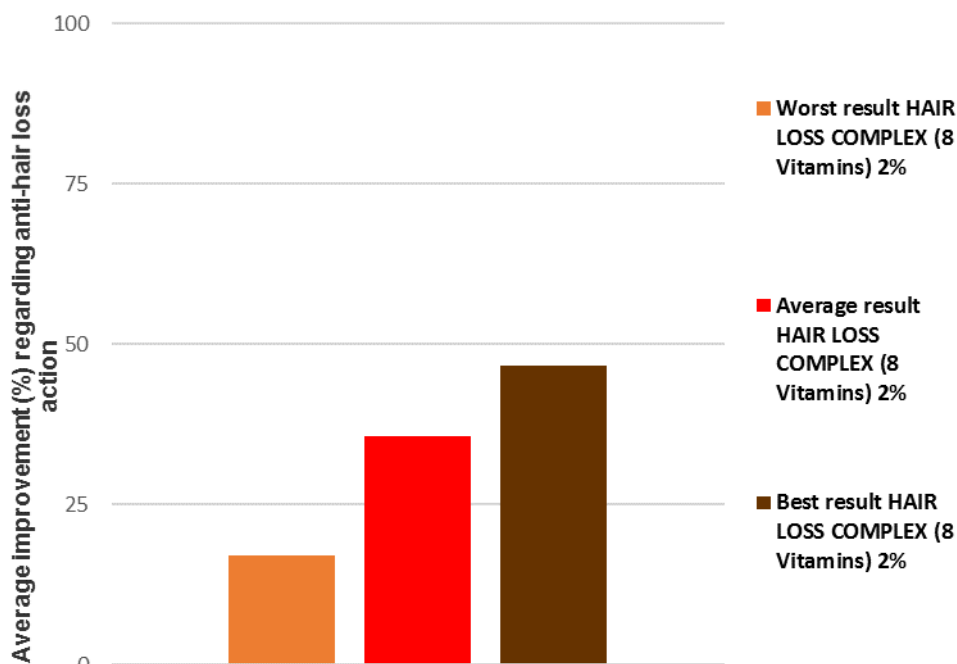
AS rank between 4 – 5: Excellent cosmetic result.



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HAIR LOSS COMPLEX (8 Vitamins) 2%

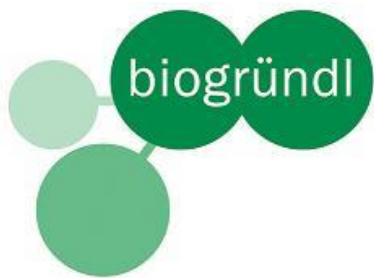


Results:

Worst result HAIR LOSS COMPLEX (8 Vitamins) 2%: 17%.
Average result HAIR LOSS COMPLEX (8 Vitamins) 2%: 35,5%.
Best result HAIR LOSS COMPLEX (8 Vitamins) 2%: 46,5%.

Results meaning:

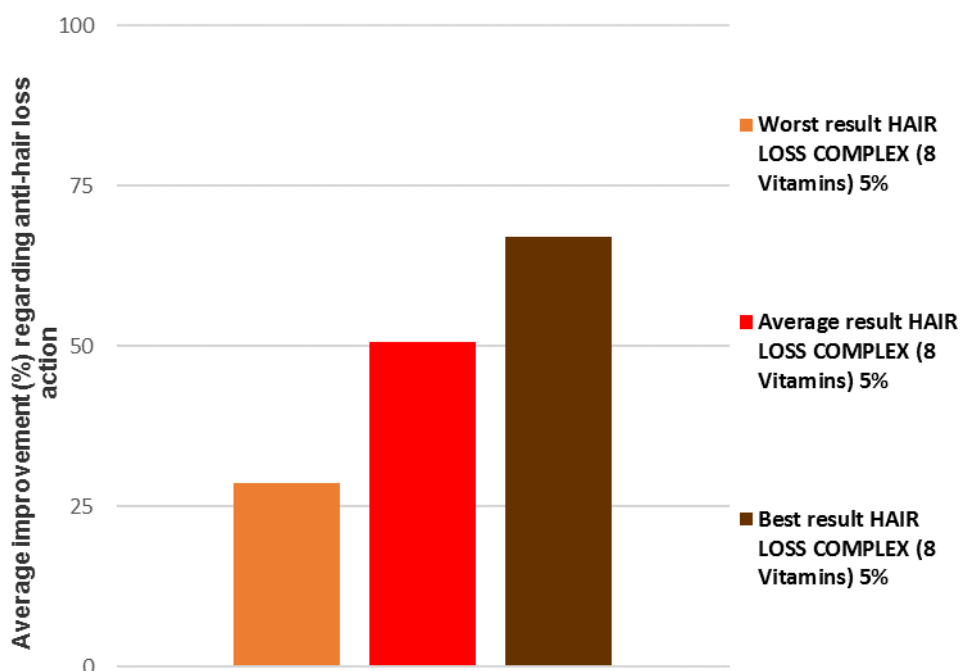
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.



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HAIR LOSS COMPLEX (8 Vitamins) 5%



Results:

Worst result HAIR LOSS COMPLEX (8 Vitamins) 5%: 28,5%.
Average result HAIR LOSS COMPLEX (8 Vitamins) 5%: 50,5%.
Best result HAIR LOSS COMPLEX (8 Vitamins) 5%: 67,5%.

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.