

BIOGRÜNDL, S.L.
POLÍGONO LES FALLULLES, NAVE 34 -SECTOR 2-
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TECHNICAL DATA SHEET

ALFALFA EXTRACT / AEC / HGL / CA20 /



Trade Name: ALFALFA EXTRACT / AEC / HGL / CA20 /.

Product Code: CEFFAHGLC20.

INCI Name: AQUA, GLYCERIN, MEDICAGO SATIVA EXTRACT, POTASSIUM SORBATE, SODIUM BENZOATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 84082-36-0; 24634-61-5/ 590-00-1; 532-32-1.

EC Number: 231-791-2; 200-289-5; 281-984-0; 246-376-1; 208-534-8.

Origin: GLYCERIN: Vegetable origin.

MEDICAGO SATIVA EXTRACT: Vegetable origin.



POTASSIUM SORBATE: Synthetic origin (ECOCERT accepted).

SODIUM BENZOATE: Synthetic origin (ECOCERT accepted).

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, Sodium Benzoate. 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: 1,050 - 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.

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: Preparations for ageing, unstressed or damaged skin treatments. Hair treatments.

Properties: Skin tissue protective, energizing, anti-ageing and restorative.

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.

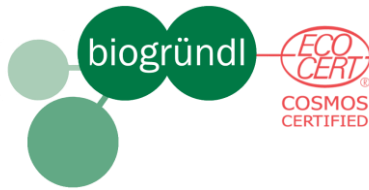
- Fitocosméticos ALVAREZ CRUZ i BAGUE SERRANO.

- 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

Alfalfa (*Medicago sativa*) is a perennial plant belonging to the legume grass family. It has trifoliolate leaves, blue-violet flowers and spiral shaped pod fruits with several seeds inside. This plant turns out to be a valuable energy source.

ALFALFA EXTRACT by BIOGRÜNDL, S.L. is obtained from ecological agriculture plant, treating it with a mixture of water and glycerin, thereby the following active ingredients are dragged:

- Proteins.
- Coumestans rich in phytoestrogens, presenting protective power to skin cells against free radicals and proteolytic enzymes.
- Carotene and chlorophyll.
- Vitamins (A, C, K).
- Minerals (Ca, Mg, P, Fe).

USE AND DOSAGE

The incorporation of alfalfa extract in cosmetics is justified by its most remarkable properties, which are as follows:

- Skin tissue protective.
- Energizing.
- Anti-Ageing.
- Restorative.

It is suitable to include in preparations to treat aged, unstressed or punished skin, especially by solar radiation or free radicals. It is also used in hair treatments.

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%.



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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: 1,050 - 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.

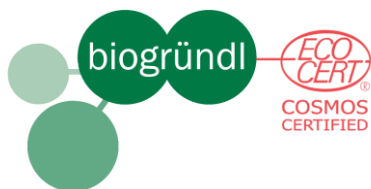
DERMATOLOGY INNOCUOUSNESS

It was performed by the patch test (Patch test) on 10 volunteers. To this purpose, 15% ALFALFA EXTRACT 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 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, MEDICAGO SATIVA EXTRACT, POTASSIUM SORBATE, SODIUM BENZOATE.

EFFECTIVENESS TEST

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Anti-wrinkle action.

N (volunteers): 30 (15 ♀ and 15 ♂).

Age (volunteers): 25 – 45 years old.

Left side part to be treated:

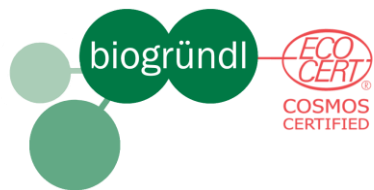
Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

ALFALFA EXTRACT 2%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

ALFALFA EXTRACT 5%, 15 volunteers, suitable cosmetic base.



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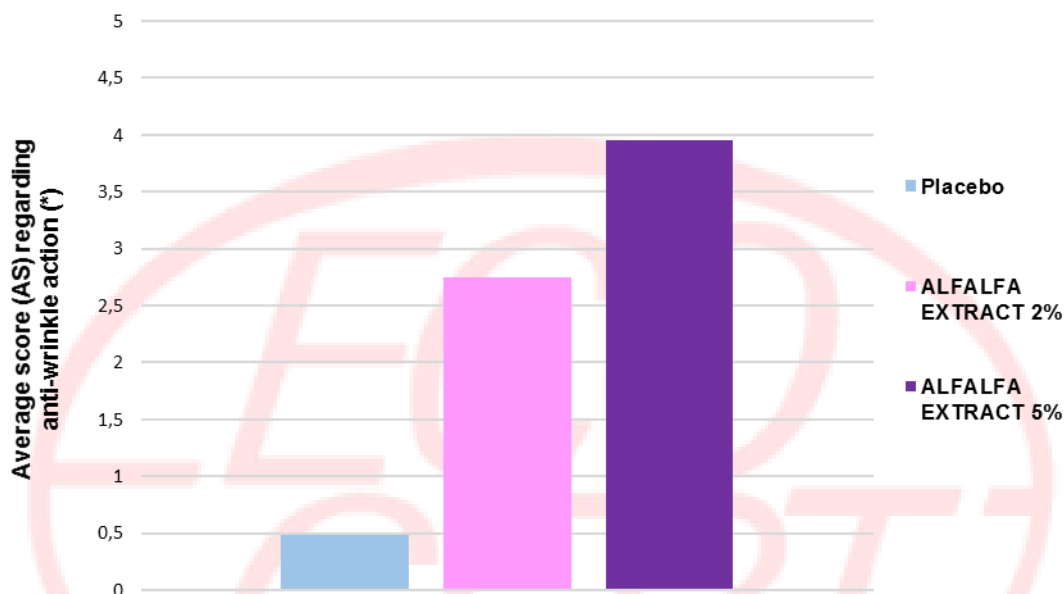
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Assayed parameters:

	Assay	N (volunteers)	Age (volunteers)	Placebo	ALFALFA EXTRACT 2%	ALFALFA EXTRACT 5%	Assay performed (Days)	Results measured (Days)
Anti-wrinkle action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 15 ♀ 15 ♂	30 - 45	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



(*) Anti-wrinkle action was determined by microscopic observation of depth and length of furrows, wrinkles and expression lines from volunteers.

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% ALFALFA EXTRACT by BIOGRÜNDL, S.L., 5% ALFALFA EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

AS rank between 0 – 1: No significant changes.

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

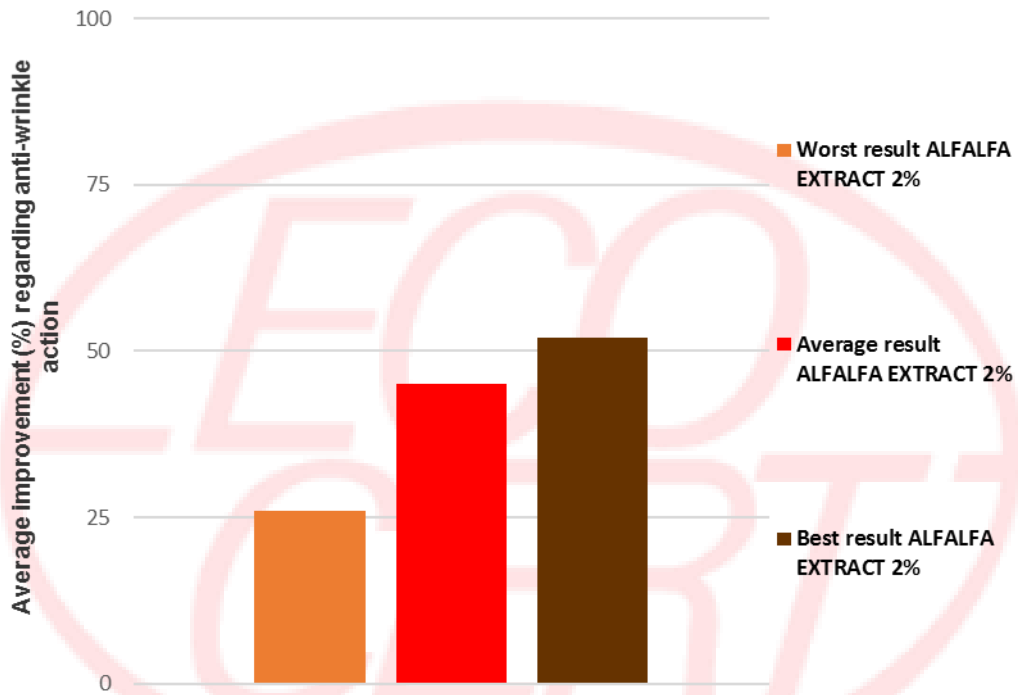
AS rank between 2 – 3: Appreciable improvement regarding placebo.

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

AS rank between 4 – 5: Excellent cosmetic result.

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ALFALFA EXTRACT 2%



Results:

Worst result ALFALFA EXTRACT 2%: 26%.

Average result ALFALFA EXTRACT 2%: 45%.

Best result ALFALFA EXTRACT 2%: 52%.

Results meaning:

AI rank between < 20%: No significant changes.

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

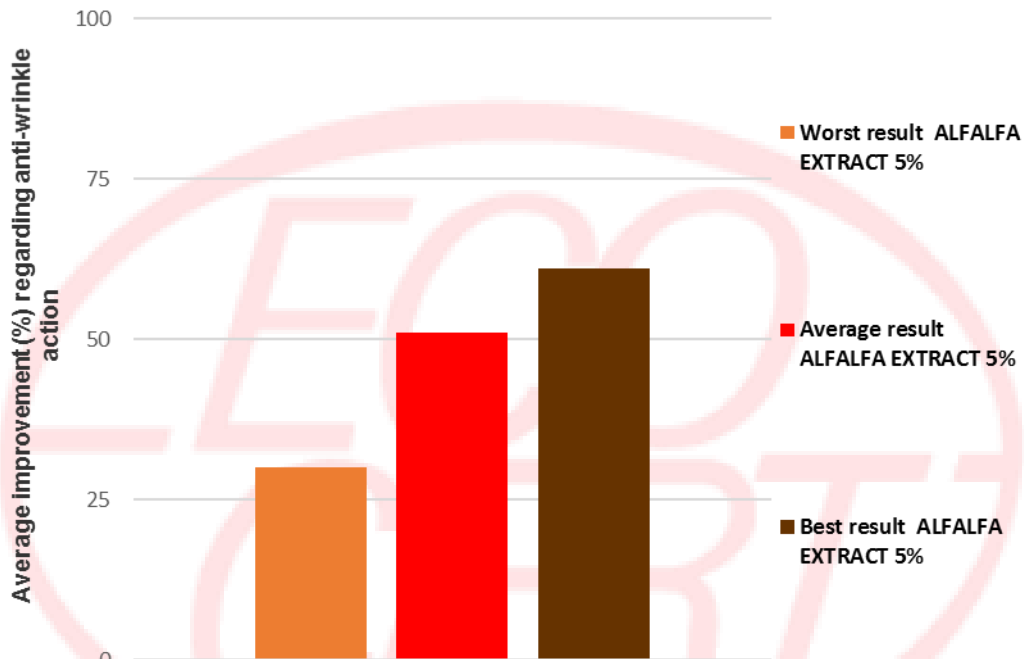
AI rank between 41 – 60%: Appreciable improvement regarding placebo.

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

AI rank between > 81%: Excellent cosmetic result.

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ALFALFA EXTRACT 5%



Results:

Worst result ALFALFA EXTRACT 5%: **30%**.

Average result ALFALFA EXTRACT 5%: **51%**.

Best result ALFALFA EXTRACT 5%: **61%**.

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.