



BIOGRÜNDL, S.L.
POLÍGONO LES FALLULLES, NAVE 34 -SECTOR 2-
08620 SANT VICENÇ DELS HORTS, BARCELONA (SPAIN)
PHONE: +34 93 660 55 12 / FAX: +34 93 660 55 13
www.biogrundl.es
info@biogrundl.es

TECHNICAL DATA SHEET

CHIA EXTRACT **/ A / HGL / CA11 /**



Trade Name: CHIA EXTRACT / A / HGL / CA11 /.

Product Code: CHIAAHGLC11.

INCI Name: AQUA, GLYCERIN, SALVIA HISPANICA SEED EXTRACT, POTASSIUM SORBATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 93384-40-8; 24634-61-5 / 590-00-1.

EC Number: 231-791-2; 200-289-5; 297-250-8; 246-376-1.

Origin: **GLYCERIN:** Vegetable origin.

SALVIA HISPANICA SEED EXTRACT: Vegetable origin.

POTASSIUM SORBATE: 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: 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: 1,050 - 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: Aged, dry or irritated skin treatment. Functional massages.

Properties: Nourishing, emollient, anti-aging, balsamic, anti-oxidant, skin conditioner and refatting.

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

Chia (*Salvia Hispanica L.*) is an annual herbaceous plant belonging to the Laminaceae family. It is native to Mexico and Central America. Its flowers are hermaphroditic, between purple and white, and sprout in terminal clusters. The plant blooms between July and August, at the end of the summer, the flowers give rise to an achene-shaped fruit whose seed is rich in mucilages, starches and oils; It has about 2 mm. long by 1.5 mm. in width, 1 mm. tall and it is oval shaped and glossy, grayish to reddish brown colour. It is one of the seeds with the highest concentration of linolenic fatty acid (omega-3). It is cultivated to take advantage of its seeds, which are used as food.

To obtain CHIA EXTRACT, BIOGRÜNDL, S.L. starts from the ground seeds, treating them with a mixture of water and glycerin, the obtained extract contains the following active substances:

- Oil rich in unsaturated fatty acids, the most abundant being oleic (7%), linoleic (19%) and linolenic (60%).
- Proteins.
- Mucilages.
- Antioxidants, such as caffeic acid and quercitin.
- Carbohydrates.

USE AND DOSAGE

The incorporation of chia extract in Cosmetics is justified by its nourishing, emollient, anti-aging, balsamic, anti-oxidant, skin conditioning and refatting properties.

CHIA EXTRACT by BIOGRÜNDL, S.L. is very useful to treat disorders and skin diseases. Also to treat aged, dry or irritated skin, as well as, in functional massages.

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% CHIA 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, SALVIA HISPANICA SEED EXTRACT, POTASSIUM SORBATE.

EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Anti-oxidant action.

N (volunteers): 30 (15 ♀ and 15 ♂).

Age (volunteers): 25 - 55 years old.

Left side part to be treated:

Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

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

Right side part to be treated:

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



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Assayed parameters:

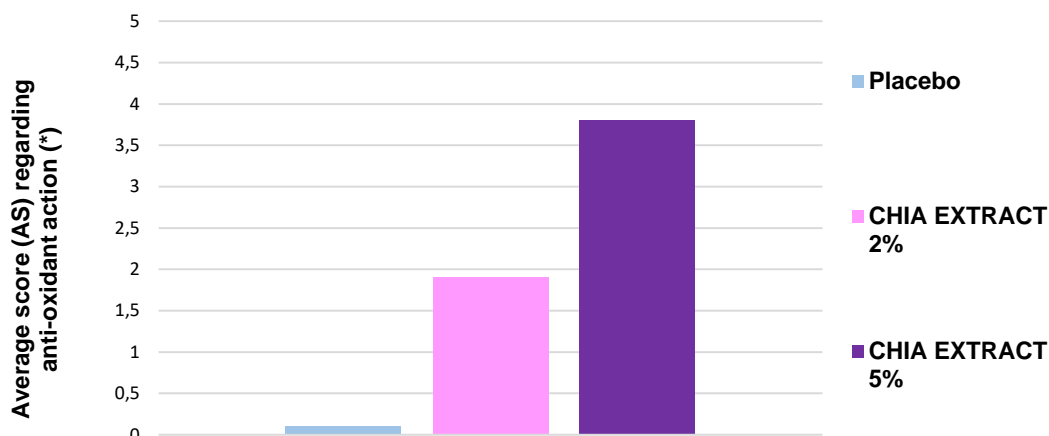
	Assay	N (volunteers)	Age (volunteers)	Placebo	CHIA EXTRACT 2%	CHIA EXTRACT 5%	Assay performed (Days)	Results measured (Days)
Anti-oxidant action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 15 ♀ 15 ♂	25 - 55	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1



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SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Anti-oxidant action was evaluated by determination of lipid rancidity degree found in volunteers skin sample.

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

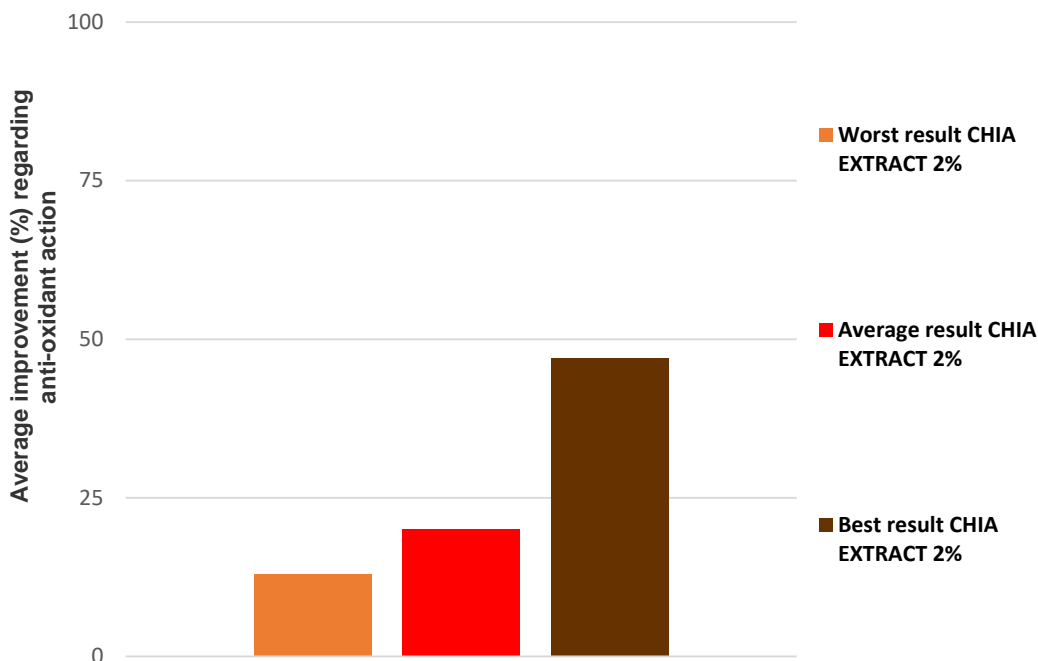
AS rank between 4 – 5: Excellent cosmetic result.



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CHIA EXTRACT 2%



Results:

Worst result CHIA EXTRACT 2%: 13%.

Average result CHIA EXTRACT 2%: 20%.

Best result CHIA EXTRACT 2%: 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.

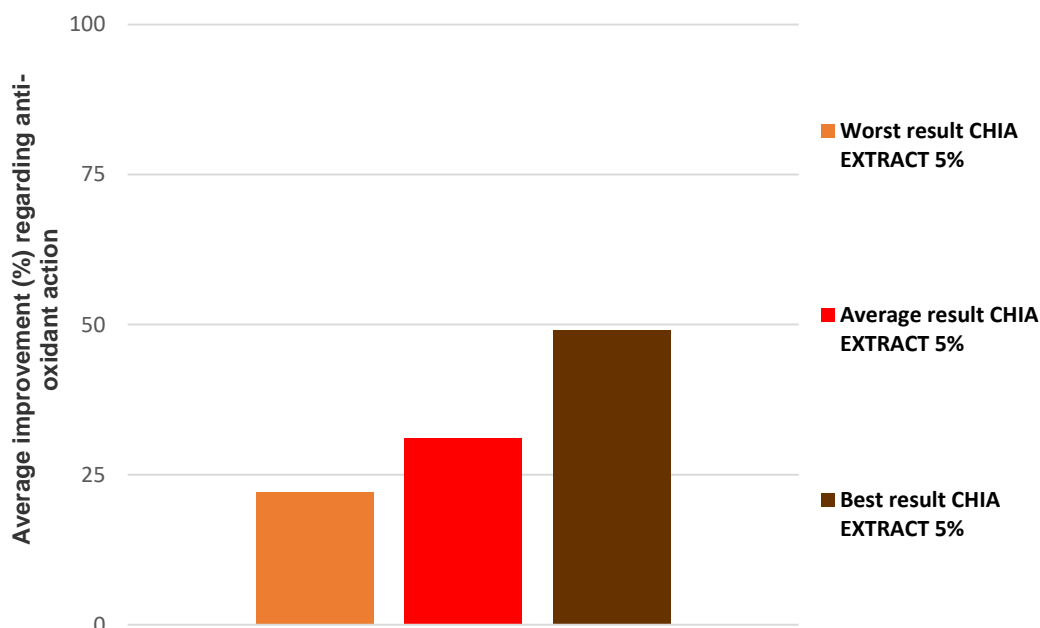
AI rank between > 81%: Excellent cosmetic result.



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CHIA EXTRACT 5%



Results:

Worst result CHIA EXTRACT 5%: 22%.

Average result CHIA EXTRACT 5%: 31%.

Best result CHIA EXTRACT 5%: 49%.

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.