

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

A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS / A / HGLA / CA11 /

A + C + E

Trade Name: A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS / A / HGLA / CA11 /

Product Code: ACAHGLACA11.

INCI Name: AQUA, GLYCERIN, ISOPROPYL ALCOHOL, PEG-40 HYDROGENATED CASTOR OIL, TOCOPHERYL ACETATE, POTASSIUM SORBATE, RETINYL PALMITATE, ASCORBYL PALMITATE, BIOFLAVONOIDS.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 67-63-0; 61788-85-0; 7695-91-2 / 58-95-7; 24634-61-5/ 590-00-1; 79-81-2; 137-66-6; 61788-55-4.

EC Number: 231-791-2; 200-289-5; 200-661-7; Not available; 231-710-0 / 200-405-4; 246-376-1; 201-228-5; 205-305-4; Not available.

Origin: **GLYCERIN:** Vegetable origin.

ISOPROPYL ALCOHOL, POTASSIUM SORBATE, ASCORBYL PALMITATE, RETINYL PALMITATE: Synthetic origin.

BIOFLAVONOIDS: Vegetable origin.

PEG-40 HYDROGENATED CASTOR OIL, TOCOPHERYL ACETATE: Synthetic – vegetable 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, glycerin and isopropyl alcohol.

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.

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: Anti-oxidant, anti-wrinkle, free radical scavenger and protective preparations.

Properties: Anti-oxidant, anti-wrinkle, reducer, free radical scavenger and protective.

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.



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

OVERVIEW

The three vitamins most commonly added in skin treatments are **A**, **C** and **E**. These vitamins, as a general rule, are not used together, which do not benefit synergistic qualities, nor its ability to mutual protection against oxidation.

Vitamin **A** acts as a powerful antioxidant and as free radical scavenger. It has pharmacodynamic effect, in the sense of keeping in good condition the skin and to encourage its correct metabolism. Acts on normal skin keratinization.

Vitamin **C** has, also, reducing and neutralizing of free radicals properties, it has an important action in the formation of connective tissue collagen fibers.

Vitamin **E** is another antioxidant that protects, specially, cell membranes from negative oxidant effect of free radicals. Its action strengthens the connective tissue, encourages vascularization in it, promotes skin regeneration and prevents formation of wrinkles and senile spots.

Bioflavonoids are compounds present in every higher form of plant being its function highly protective. They have polyphenolic chemical structure, which gives to them great antioxidant power through a neutralization mechanism of free radicals.

USE AND DOSAGE

The incorporation in cosmetics of A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS by BIOGRÜNDL, S.L. is justified by its anti-wrinkle, anti-oxidant, reducer, free radical scavenger and protective.

A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS by BIOGRÜNDL, S.L. is based on the following active ingredients:

- *VITAMIN A*: in retinyl palmitate form.
- *VITAMIN C*: in ascorbyl palmitate form, which penetrates deeper into the epidermis and has better stability against oxidation than ascorbic acid.
- *VITAMIN E*: in tocopheryl acetate form.
- *BIOFLAVONOIDS*: obtained from Ginkgo biloba, bioflavonoids content in Ginkgo biloba is probably the highest in the whole plant kingdom.

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%.



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

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, 15% A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 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.



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

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, ISOPROPYL ALCOHOL, PEG-40 HYDROGENATED CASTOR OIL, TOCOPHERYL ACETATE, POTASSIUM SORBATE, ASCORBYL PALMITATE, RETINYL PALMITATE, BIOFLAVONOIDS.

EFFECTIVENESS TEST

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Anti-oxidant action.

N (volunteers): 30 (16 ♀ and 14 ♂).

Age (volunteers): 21 – 75 years old.

Left side part to be treated:

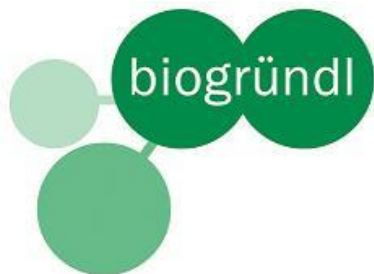
Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 2%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 5%, 15 volunteers, suitable cosmetic base.

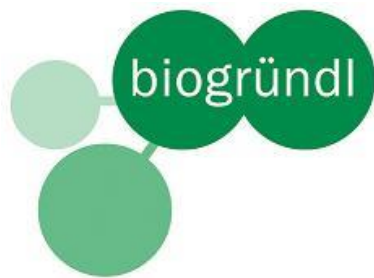


BIOGRÜNDL, S.L.
 POLÍGONO LES FALLULLES, NAVE 34 -SECTOR 2-
 08620 SANT VICENÇ DELS HORTS, BARCELONA (SPAIN)
 PHONE: +34 93 660 55 12 / FAX: +34 93 660 55 13
 www.biogrundl.es
 info@biogrundl.es

TECHNICAL DATA SHEET

Assayed parameter:

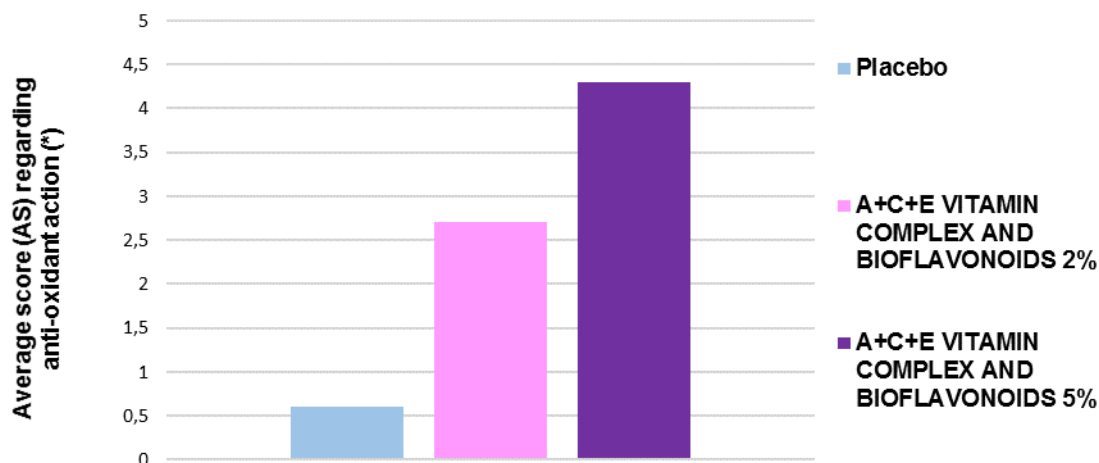
	Assay	N (volunteers)	Age (volunteers)	Placebo	A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 2%	A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 5%	Assay performed (Days)	Results measured (Days)
Anti-oxidant action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	21 – 75	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1



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

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% A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS by BIOGRÜNDL, S.L., 5% A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 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.

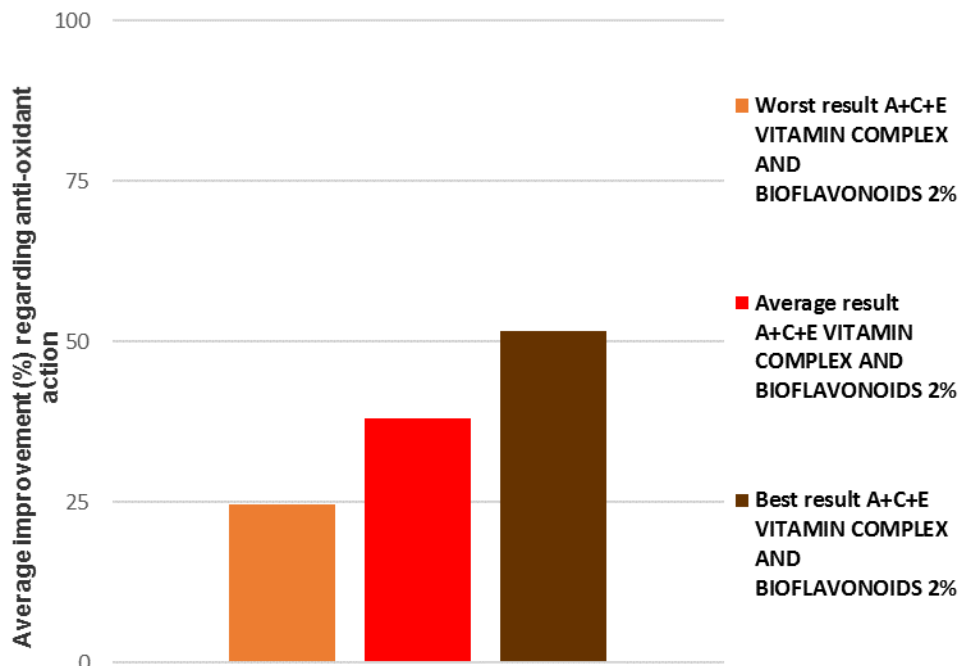
AS rank between 4 – 5: Excellent cosmetic result.



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

A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 2%



Results:

Worst result A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 2%: **24,5%**.
Average result A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 2%: **38%**.
Best result A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 2%: **51,5%**.

Results meaning:

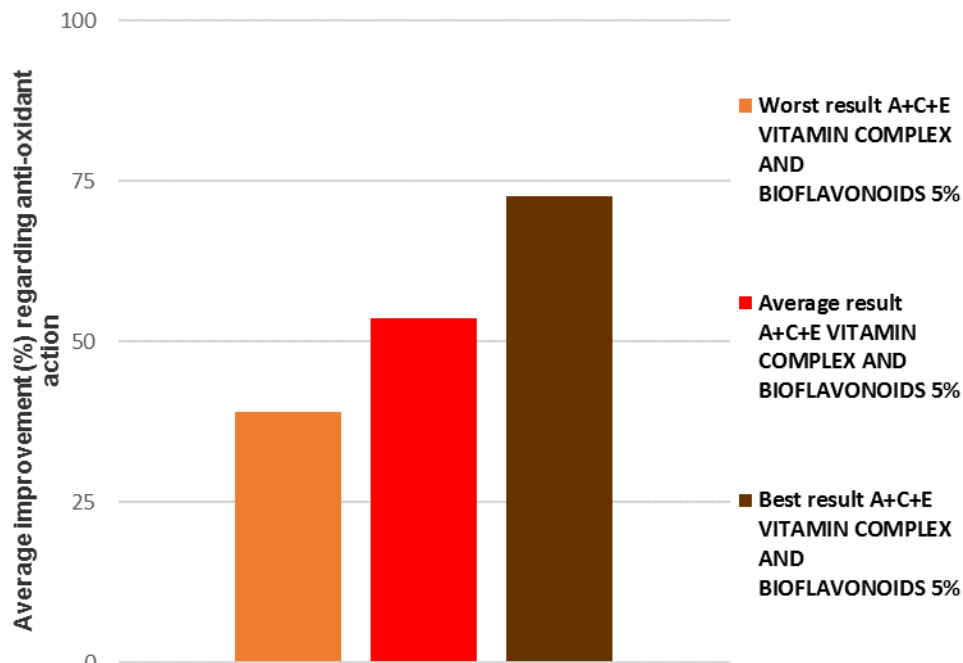
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.



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

A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 5%



Results:

Worst result A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 5%: 39%.
Average result A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 5%: 53,5%.
Best result A+C+E VITAMIN COMPLEX AND BIOFLAVONOIDS 5%: 72,5%.

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.