



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

### **BLOOD ORANGE EXTRACT** **/ A / HGL / CA11 /**



**Trade Name:** BLOOD ORANGE EXTRACT / A / HGL / CA11 /

**Product Code:** ENSAHGLCA11.

**INCI Name:** AQUA, GLYCERIN, CITRUS AURANTIUM DULCIS FRUIT EXTRACT, POTASSIUM SORBATE.

**INCI Status:** Conforms.

**REACH Status:** Low Volume Exemption.

**CAS Number:** 7732-18-5; 56-81-5; 8028-48-6 / 84012-28-2; 24634-61-5 / 590-00-1.

**EC Number:** 231-791-2; 200-289-5; 232-433-8; 246-376-1.

**Origin:** GLYCERIN: Vegetable origin.

**CITRUS AURANTIUM DULCIS FRUIT 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/cm<sup>3</sup> (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:** Atonic, aged, sensitive, irritated or with redness problems and/or broken capillaries (rosacea, couperose, telangiectasia) skin treatment. Massage gels and creams. Hiperchromic spot treatment. Depigmenting preparations. Anti-acne or hyperkeratosis treatments. Sunscreen, after-sun and self-tanning preparations.

**Properties:** Anti-oxidant, anti-radical, protective, disinfectant, calming and moisturizing.

**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.

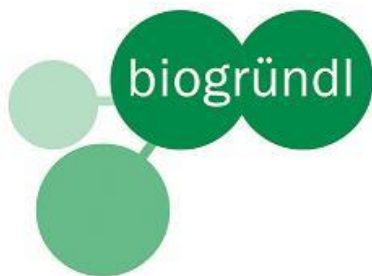
- Fitocosméticos ALVAREZ CRUZ i BAGUE SERRANO.

- 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

Orange tree (*Citrus aurantium dulcis*) is an evergreen tree belonging to the Rutaceae family. Originally from Asia, it was introduced in the Mediterranean countries by the Arabs. Its fruit, orange, comes in a variety of different sizes, colours and tastes, being precisely the richest in carotenes and carotenoid pigments, the sanguine variety.

BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L. is obtained by expression of the mature fruit, including the epicarp, and further dilution in a mixture of water and glycerin.

Its most prominent and active substances are:

- Essential oil, whose main components are limonene, aromatic aldehydes, linalool, linalyl acetate, terpineol and coumarins.
- Citrus Bioflavonoids, especially, neohesperidin, naringin, hesperidin and rutin.
- Vitamins C, A, B; carotene and carotenoid pigments.
- Organic acids such as citric, malic and ascorbic acid giving the classic orange taste.
- Carbohydrates and pectins.

### USE AND DOSAGE

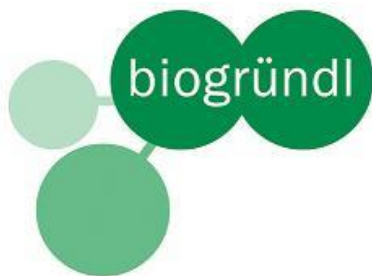
The incorporation in cosmetics of blood orange extract is justified by its high content of beta-carotene; C and B vitamins; organic acids, the most abundant of them with alpha-hydroxyacid or alpha-ketoacid nature; flavonoids, with high anti-oxidant power, anti-radical and protective of capillaries; essential oil, with powerful disinfectant and soothing action; carbohydrates and pectins giving it moisturizing properties.

BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L., is advised to treat atonic, aged, sensitive, irritated or with redness problems and/or broken capillaries (rosacea, couperose, telangiectasia) skins.

Added to massage gels and creams, it vitalizes skin and musculature. Very useful, also, its inclusion in preparations to treat hiperchromic spots, as well as, in depigmenting preparations. Also, in anti-acne or hyperkeratosis treatment. It gives to the final product very good protective results added to sunscreen, after-sun and self-tanning preparations.

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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## 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:** 1,050 - 1,300 g/cm<sup>3</sup> (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% BLOOD ORANGE 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, CITRUS AURANTIUM DULCIS FRUIT EXTRACT, POTASSIUM SORBATE.

### **EFFECTIVENESS TESTS**

**Assay:** Double blind spot trial and subsequent cosmetic evaluation.

**Assayed parameters:** Anti-oxidant action. Disinfectant action. Moisturizing action.

**N (volunteers):** 30 (18 ♀ and 12 ♂).

**Age (volunteers):** 25 – 75 years old.

**Left side part to be treated:**

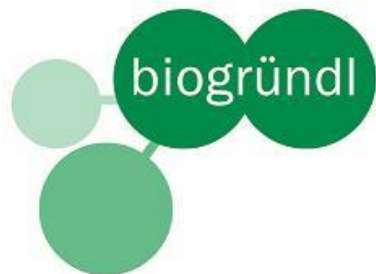
Placebo, 30 volunteers, suitable cosmetic base.

**Right side part to be treated:**

BLOOD ORANGE EXTRACT 2%, 15 volunteers, suitable cosmetic base.

**Right side part to be treated:**

BLOOD ORANGE EXTRACT 5%, 15 volunteers, suitable cosmetic base.

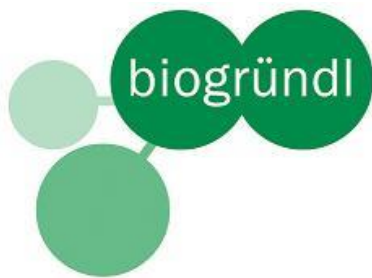


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### Assayed parameters:

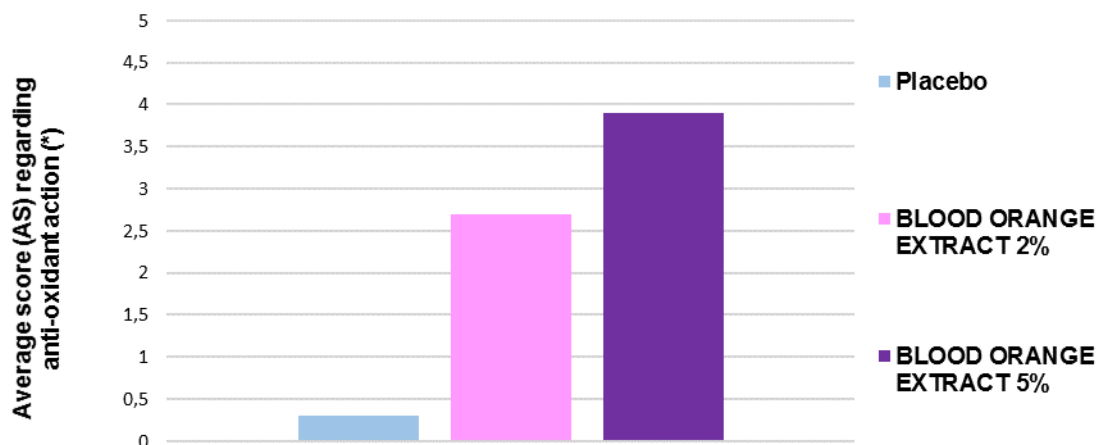
	Assay	N (volunteers)	Age (volunteers)	Placebo	BLOOD ORANGE EXTRACT 2%	BLOOD ORANGE EXTRACT 5%	Assay performed (Days)	Results measured (Days)
<b>Anti-oxidant action</b>	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 18 ♀ and 12 ♂	25 – 75	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1
<b>Disinfectant action</b>	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 18 ♀ and 12 ♂	25 – 75	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 30
<b>Moisturizing action</b>	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 18 ♀ and 12 ♂	25 – 75	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 30



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## 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% BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L., 5% BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L..

#### Results meaning:

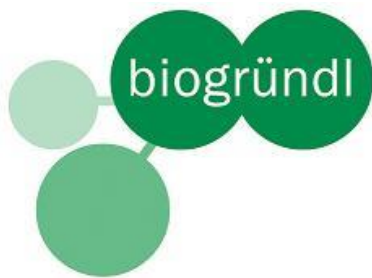
AS rank between 0 – 1: No significant changes.

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.

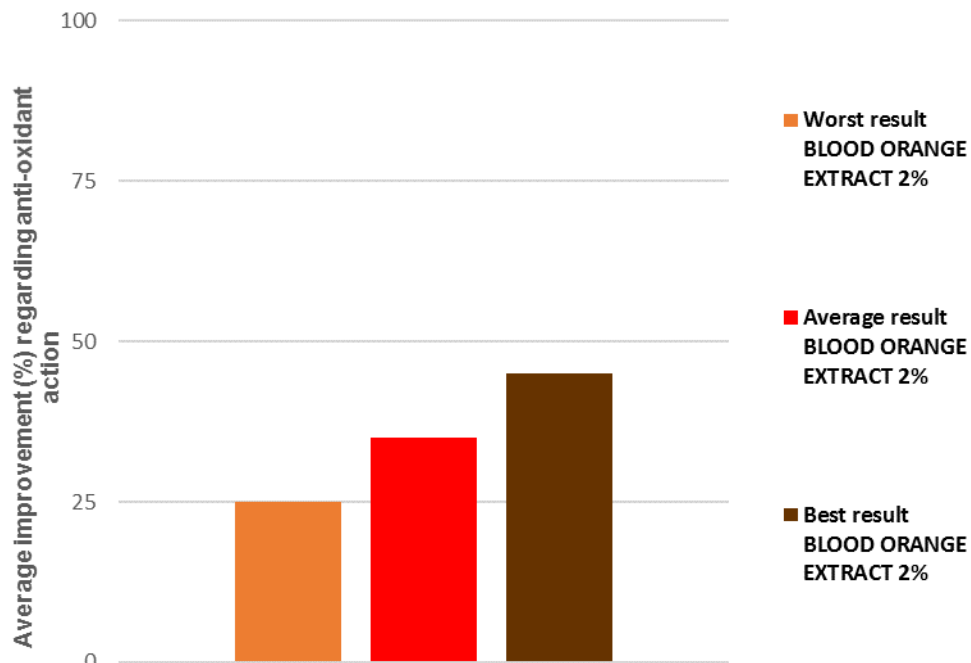
AS rank between 4 – 5: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### BLOOD ORANGE EXTRACT 2%



#### Results:

Worst result BLOOD ORANGE EXTRACT 2%: 25%.

Average result BLOOD ORANGE EXTRACT 2%: 35%.

Best result BLOOD ORANGE EXTRACT 2%: 45%.

#### Results meaning:

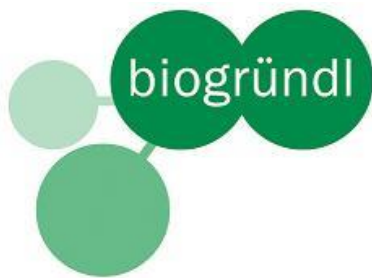
AI rank between < 20%: No significant changes.

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.

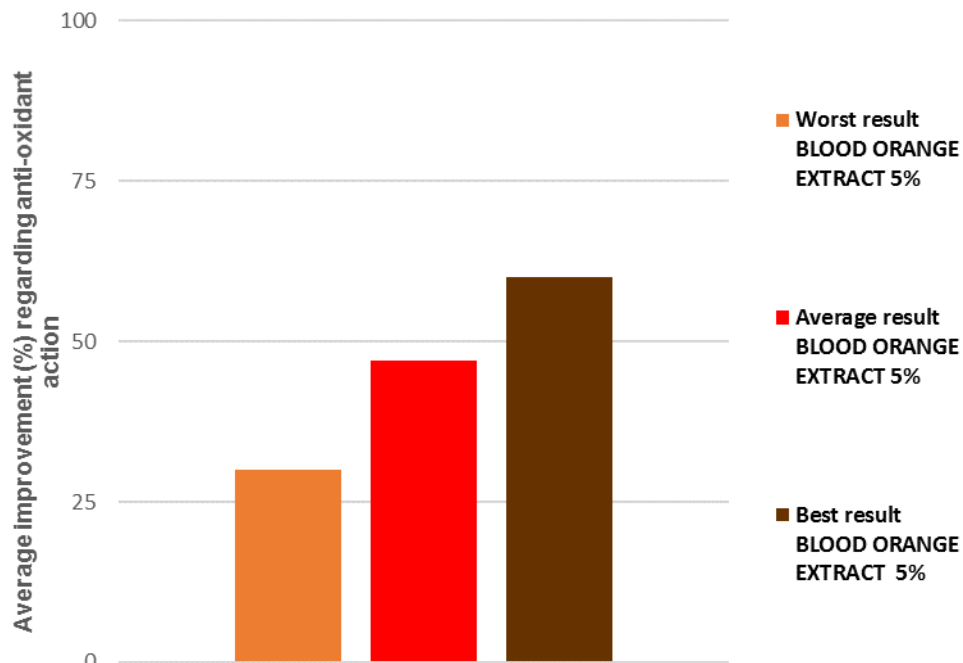
AI rank between > 81%: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### BLOOD ORANGE EXTRACT 5%



#### Results:

Worst result BLOOD ORANGE EXTRACT 5%: 30%.

Average result BLOOD ORANGE EXTRACT 5%: 47%.

Best result BLOOD ORANGE EXTRACT 5%: 60%.

#### Results meaning:

AI rank between < 20%: No significant changes.

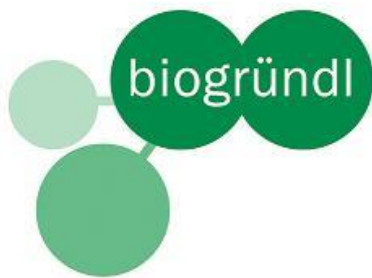
AI rank between 21 – 40%: Slight improvement regarding placebo.

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.

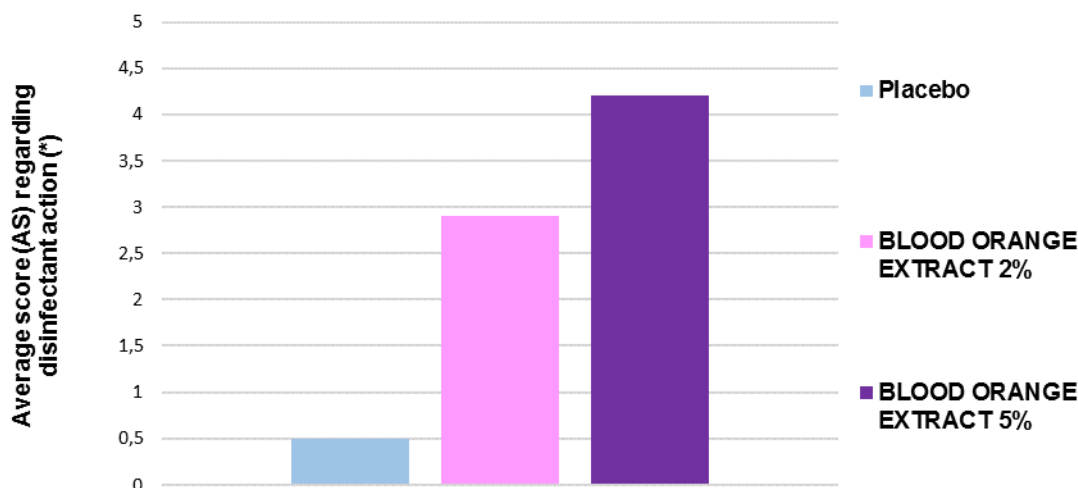




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## TECHNICAL DATA SHEET

### SKIN CONDITION EVALUATION AFTER 30 DAYS



(\*) Disinfectant action was measured by microbial count of microbiological seeding, in appropriate specific medium, from 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' = 30 days ( every day during the effectiveness test).

#### 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% BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L., 5% BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L..

#### Results meaning:

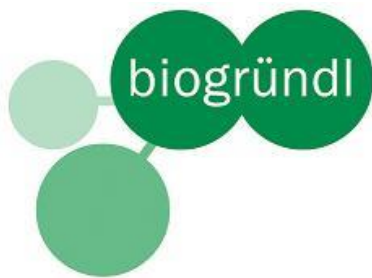
AS rank between 0 – 1: No significant changes.

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.

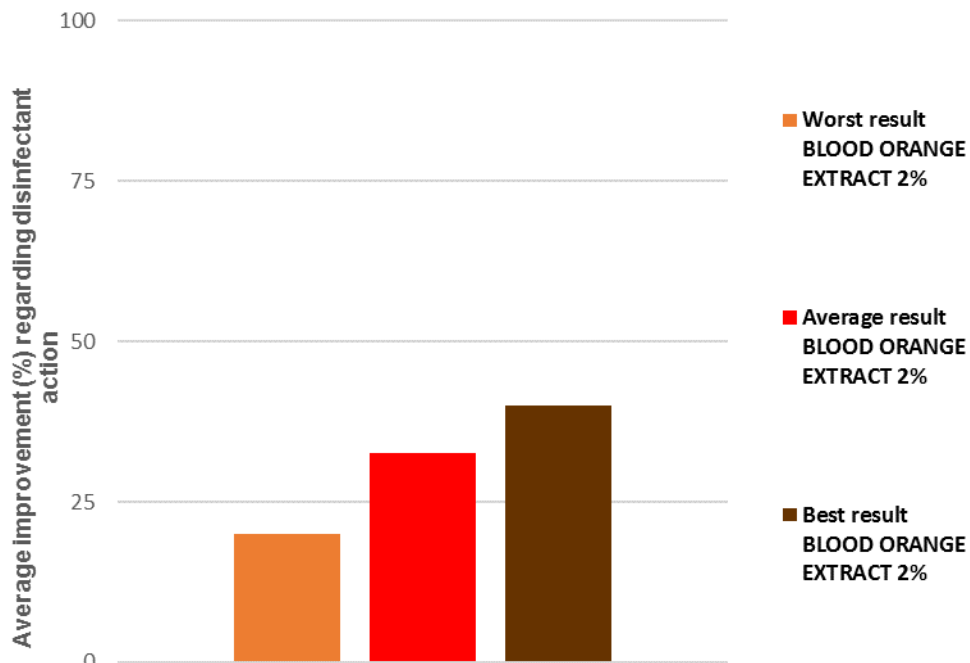
AS rank between 4 – 5: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### BLOOD ORANGE EXTRACT 2%



#### Results:

Worst result BLOOD ORANGE EXTRACT 2%: 20%.

Average result BLOOD ORANGE EXTRACT 2%: 32,5%.

Best result BLOOD ORANGE EXTRACT 2%: 40%.

#### Results meaning:

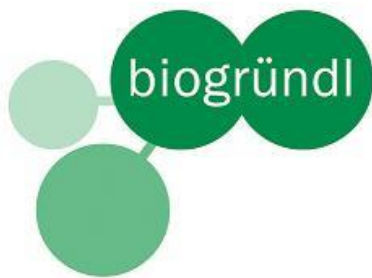
AI rank between < 20%: No significant changes.

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.

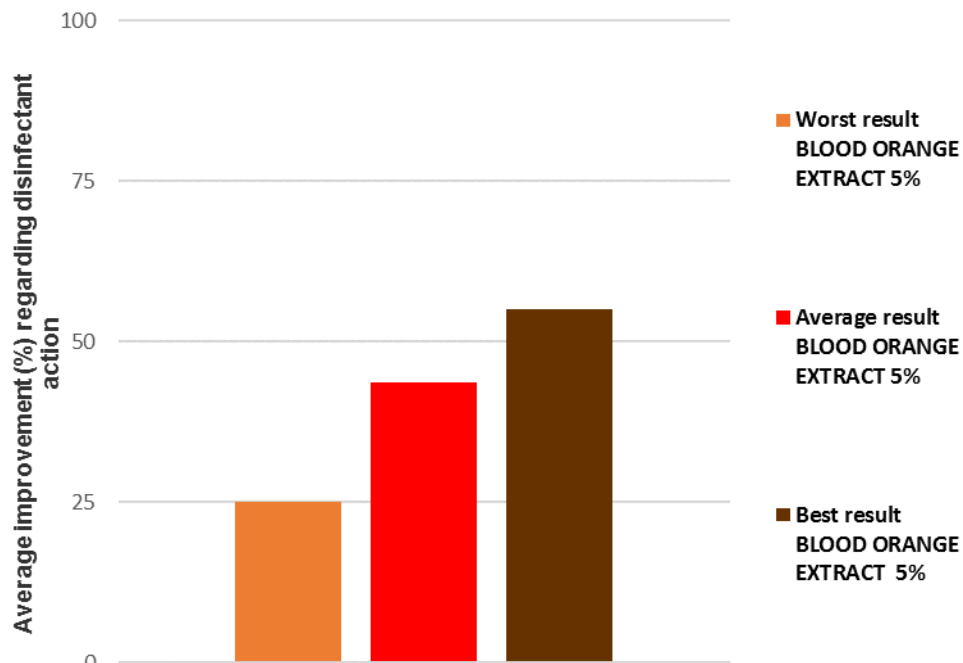
AI rank between > 81%: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### BLOOD ORANGE EXTRACT 5%



#### Results:

Worst result BLOOD ORANGE EXTRACT 5%: 25%.

Average result BLOOD ORANGE EXTRACT 5%: 43,5%.

Best result BLOOD ORANGE EXTRACT 5%: 55%.

#### Results meaning:

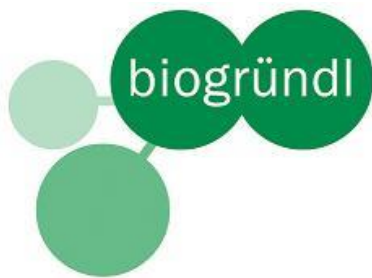
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AI rank between 21 – 40%: Slight improvement regarding placebo.

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

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

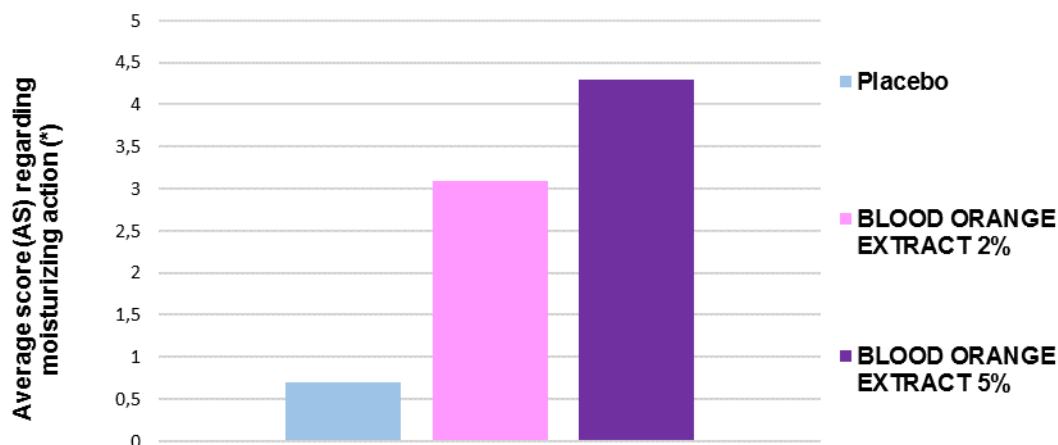
AI rank between > 81%: Excellent cosmetic result.



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### SKIN CONDITION EVALUATION AFTER 30 DAYS



(\*) Moisturizing action was determined by using a device called Tewameter which evaluates moisturizing effectiveness, providing TEWL parameters (transepidermal water loss), on volunteers treated zone.

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' = 30 days ( every day during the effectiveness test).

#### 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% BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L., 5% BLOOD ORANGE EXTRACT by BIOGRÜNDL, S.L..

#### Results meaning:

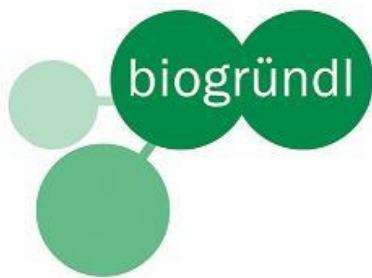
AS rank between 0 – 1: No significant changes.

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.

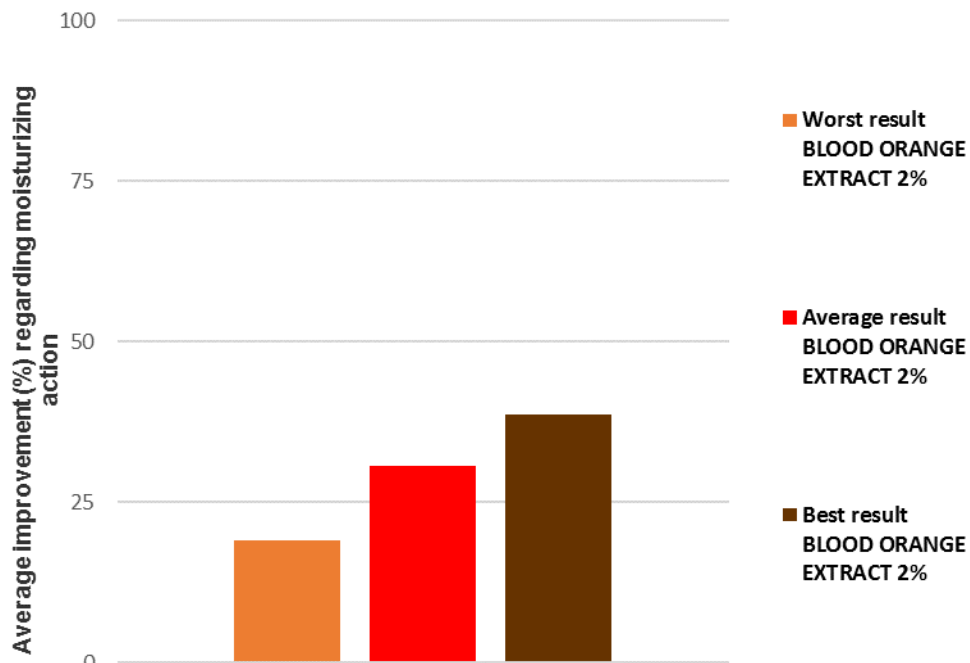
AS rank between 4 – 5: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### BLOOD ORANGE EXTRACT 2%



#### Results:

Worst result BLOOD ORANGE EXTRACT 2%: 19%.

Average result BLOOD ORANGE EXTRACT 2%: 30,5%.

Best result BLOOD ORANGE EXTRACT 2%: 38,5%.

#### Results meaning:

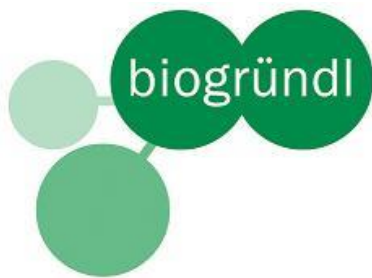
AI rank between < 20%: No significant changes.

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.

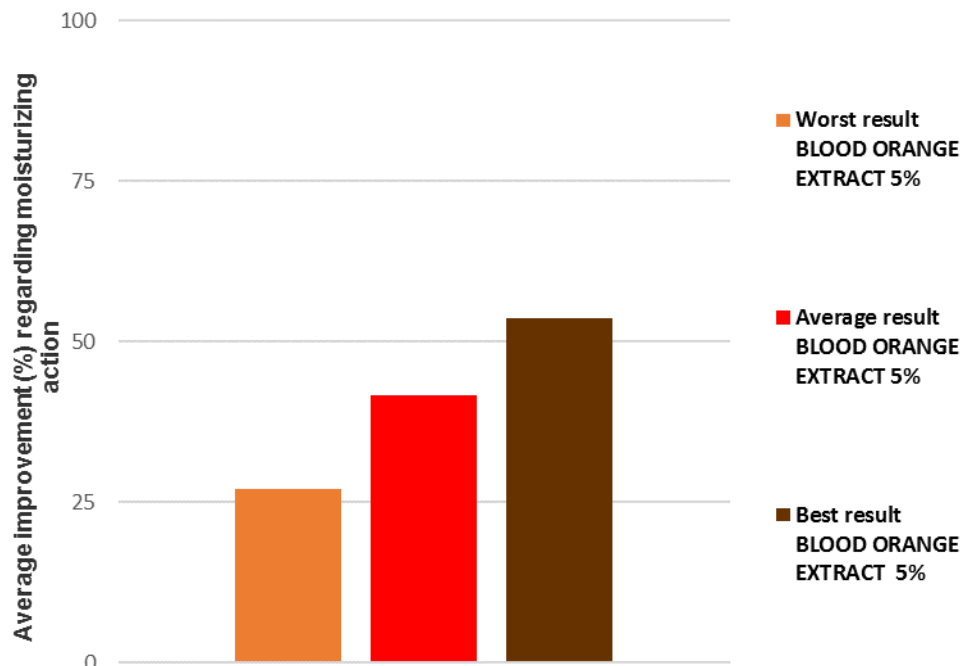
AI rank between > 81%: Excellent cosmetic result.



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### BLOOD ORANGE EXTRACT 5%



#### Results:

Worst result BLOOD ORANGE EXTRACT 5%: 27%.

Average result BLOOD ORANGE EXTRACT 5%: 41,5%.

Best result BLOOD ORANGE EXTRACT 5%: 53,5%.

#### 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.