

BIOGRÜNDL, S.L.
POLÍGONO LES FALLULLES, NAVE 34 -SECTOR 2-
08620 SANT VICENÇ DELS HORTS, BARCELONA (SPAIN)
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TECHNICAL DATA SHEET

HEAT EFFECT RELAX CONCENTRATE / A / HA / CA11 /



Trade Name: HEAT EFFECT RELAX CONCENTRATE / A / HA / CA11 /.

Product Code: CRECAHACA11.

INCI Name: AQUA, ISOPROPYL ALCOHOL, CINNAMOMUM ZEYLANICUM BARK EXTRACT, ARNICA MONTANA FLOWER EXTRACT, CAMPHOR, PEG-40 HYDROGENATED CASTOR OIL, POTASSIUM SORBATE, MENTHOL, METHYL SALICYLATE, METHYL NICOTINATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 67-63-0; 84649-98-9; 68990-11-4; 464-49-3 / 76-22-2; 61788-85-0; 24634-61-5 / 590-00-1; 1490-04-6 / 2216-51-5 / 89-78-1 / 15356-70-4; 119-36-8; 93-60-7.

EC Number: 231-791-2; 200-661-7; 283-479-0; 273-579-2; 207-355-2 / 200-945-0; Not available; 246-376-1; 216-074-4 / 218-690-9 / 201-939-0 / 239-388-3; 204-317-7; 202-261-8.

Origin: CINNAMOMUM ZEYLANICUM BARK EXTRACT, ARNICA MONTANA FLOWER EXTRACT:

Vegetable origin.

ISOPROPYL ALCOHOL, CAMPHOR, POTASSIUM SORBATE, MENTHOL, METHYL NICOTINATE: Synthetic origin.

METHYL SALICYLATE: Natural origin.

PEG-6 CAPRYLIC / CAPRIC GLYCERIDES, PEG-40 HYDROGENATED CASTOR OIL:
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 and isopropyl alcohol.

Appearance: Clear or slightly opalescent liquid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Specific gravity: 0,900 – 0,980 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: 5,0 – 15,0%.

Suggested Applications: Specific massages treatment. Sport products.

Properties: Prepares muscles and joints before practice of sports. Enhances the effectiveness of preparatory massages. Maintains temperature regulation in the application area. Increases blood flow in the treated area. Prepares muscles and joints to make great efforts. Strengthens tissues.

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

The pre-heating of muscles and joints is an advisable and effective measure to prevent damage, possible injury and to achieve optimal efficiency in the effort to be performed. BIOGRÜNDL, S.L. has conducted extensive research in this field, in collaboration with leading specialists in sport medicine, creating HEAT EFFECT RELAX CONCENTRATE, which can be incorporated, easily, to almost all common excipients.

USE AND DOSAGE

The application in cosmetics of HEAT EFFECT RELAX CONCENTRATE by BIOGRÜNDL, S.L. is justified by the following properties:

- It prepares muscles and joints before practice of sports, in particular, those that require great or continuous effort.
- It enhances the effectiveness of preparatory massages.
- It maintains temperature regulation in the application area, thereby physiological mishaps are avoided.
- It increases blood flow in the treated area, thereby achieving more oxygen and nutritive substances that speed up metabolism, which leads to better performance.
- Its regular application prepares muscles and joints to make great efforts and keep them in top physical condition.
- It strengthens tissues due to its remarkable heat effect.

HEAT EFFECT RELAX CONCENTRATE by BIOGRÜNDL, S.L. can be easily incorporated into lotions, gels, cremigels or creams for the finishing described purposes.

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 5% and 15%. 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: 0,900 – 0,980 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% HEAT EFFECT RELAX CONCENTRATE 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, ISOPROPYL ALCOHOL, CINNAMOMUM ZEYLANICUM BARK EXTRACT, ARNICA MONTANA FLOWER EXTRACT, CAMPHOR, PEG-40 HYDROGENATED CASTOR OIL, POTASSIUM SORBATE, MENTHOL, METHYL SALICYLATE, METHYL NICOTINATE.

EFFECTIVENESS TEST

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Heat effect action.

N (volunteers): 30 (16 ♀ and 14 ♂).

Age (volunteers): 18 – 59 years old.

Left side part to be treated:

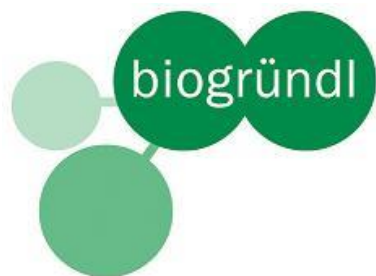
Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

HEAT EFFECT RELAX CONCENTRATE 5%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

HEAT EFFECT RELAX CONCENTRATE 15%, 15 volunteers, suitable cosmetic base.

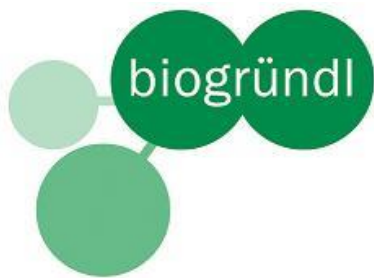


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Assayed parameter:

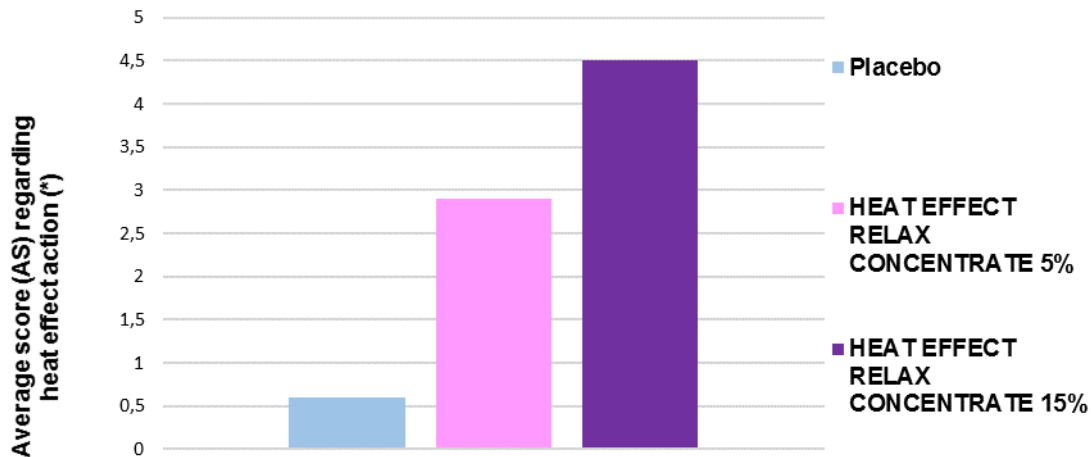
	Assay	N (volunteers)	Age (volunteers)	Placebo	HEAT EFFECT RELAX CONCENTRATE 5%	HEAT EFFECT RELAX CONCENTRATE 15%	Assay performed (Days)	Results measured (Days)
Heat effect action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	18 – 59	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 15	D' = 15



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SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Heat effect action was determined by subjective assessment of heat sensation increase in volunteers treated skin zone.

Total number of days in which the assay was performed (treatment was applied):
D = 15 days (every other day during the effectiveness test).

Total number of days in which the results were measured:
D' = 15 days (every other 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, 5% HEAT EFFECT RELAX CONCENTRATE by BIOGRÜNDL, S.L.,
15% HEAT EFFECT RELAX CONCENTRATE by BIOGRÜNDL, S.L..

Results meaning:

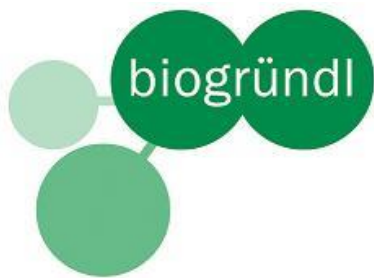
AS rank between 0 – 1: No significant changes.

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.

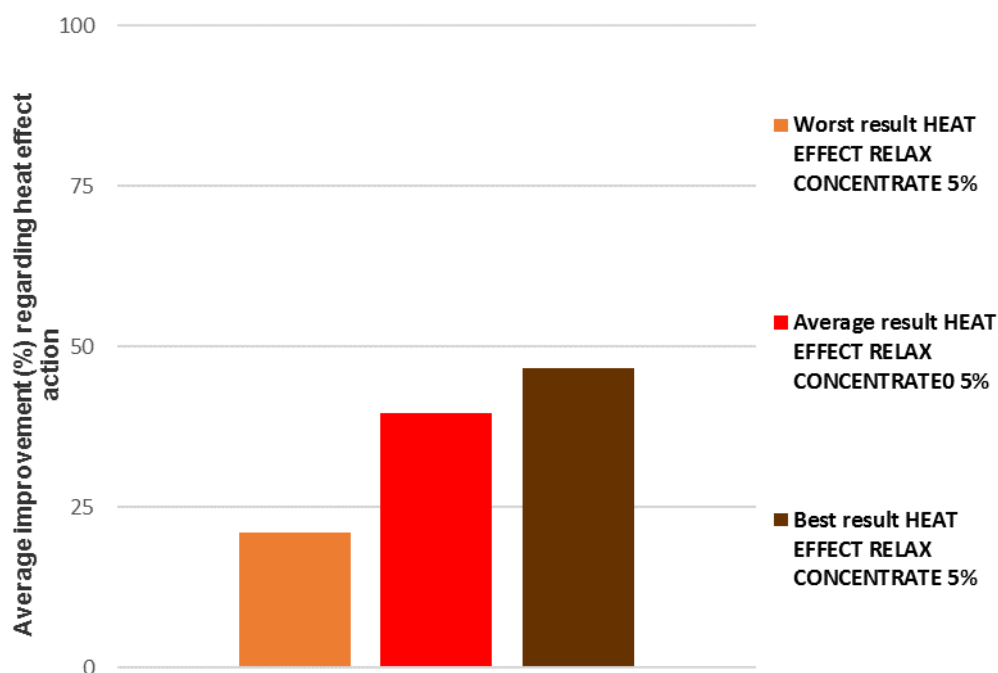
AS rank between 4 – 5: Excellent cosmetic result.



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HEAT EFFECT RELAX CONCENTRATE 5%



Results:

Worst result HEAT EFFECT RELAX CONCENTRATE 5%: 21%.

Average result HEAT EFFECT RELAX CONCENTRATE 5%: 39,5%.

Best result HEAT EFFECT RELAX CONCENTRATE 5%: 46,5%.

Results meaning:

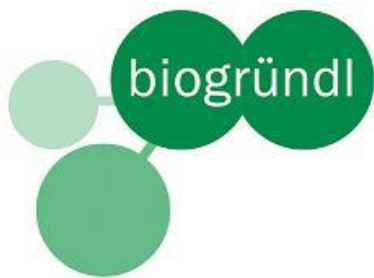
AI rank between < 20%: No significant changes.

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.

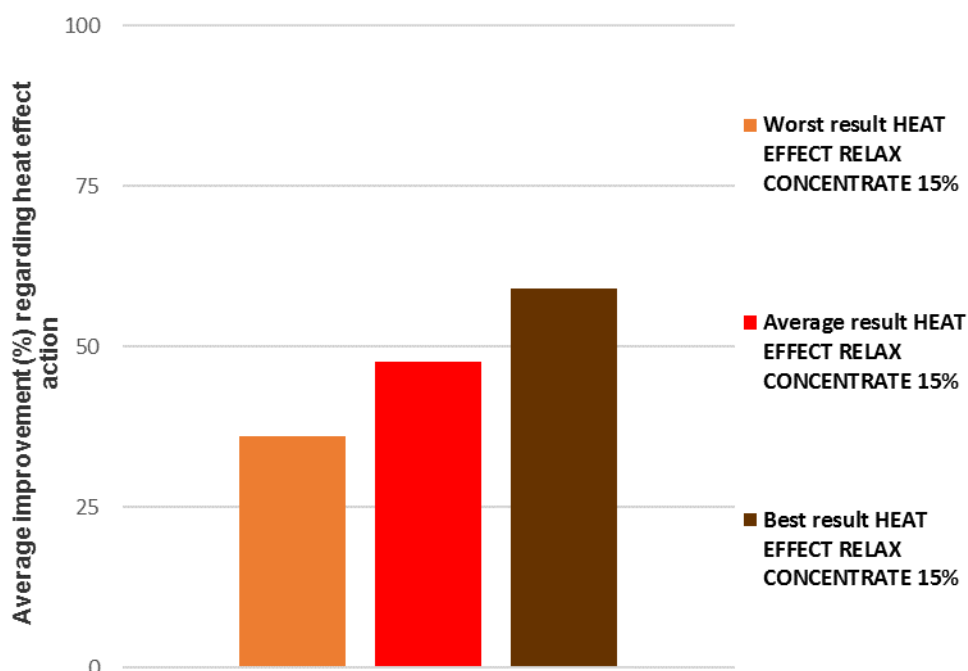
AI rank between > 81%: Excellent cosmetic result.



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HEAT EFFECT RELAX CONCENTRATE 15%



Results:

Worst result HEAT EFFECT RELAX CONCENTRATE 15%: 36%.

Average result HEAT EFFECT RELAX CONCENTRATE 15%: 47,5%.

Best result HEAT EFFECT RELAX CONCENTRATE 15%: 59%.

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.