

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

CALENDULA EXTRACT / AEC / HGL / CA20 /



Trade Name: CALENDULA EXTRACT / AEC / HGL / CA20 /

Product Code: CECLAHGLC20.

INCI Name: AQUA, GLYCERIN, CALENDULA OFFICINALIS FLOWER EXTRACT, POTASSIUM SORBATE, SODIUM BENZOATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 84776-23-8; 24634-61-5/ 590-00-1; 532-32-1.

EC Number: 231-791-2; 200-289-5; 283-949-5; 246-376-1; 208-534-8.

Origin: GLYCERIN: Vegetable origin.

CALENDULA OFFICINALIS FLOWER EXTRACT: Vegetable origin.



POTASSIUM SORBATE: Synthetic origin.

SODIUM BENZOATE: 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, 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: Desensitizing in moisturizing and nourishing creams. Also, in makeup foundations. Dry, sensitive or with tolerance problems skin products. Skin tonics.

Properties: Calming, anti-inflammatory, healing and antiseptic.

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.

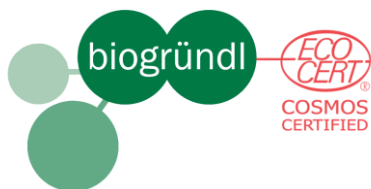
- Fitocosméticos ALVAREZ CRUZ i BAGUE SERRANO.

- 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

Calendula (*Calendula officinalis* L.) is an herbaceous annual plant, belonging to the Compound family, with light green leaves, flowers with intense orange color and fruits in thorny achene.

CALENDULA EXTRACT by BIOGRÜNDL, S.L., is obtained treating petals of the ecological agriculture plant with a water and glycerin mixture.

As active substances would include the following:

- Mucilages.
- Triterpenes and saponins.
- Phytosterols and triterpene alcohols.
- Flavonoids.
- Calenduline.
- Essential oil.
- Resins.
- Tocopherols.

USE AND DOSAGE

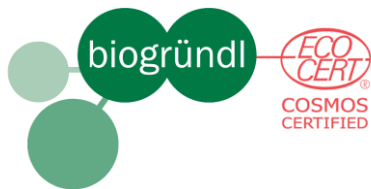
The incorporation in cosmetics of calendula extract is justified by its soothing, anti-inflammatory, healing and antiseptic properties.

CALENDULA EXTRACT by BIOGRÜNDL, S.L. is specially indicated as deep desensitizing in moisturizing creams, nourishing creams, and makeup foundations. Also, for dry, sensitive or with tolerance problems skin products.

Also, in skin tonics formulation giving anti-inflammatory, antiseptic and healing properties.

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.

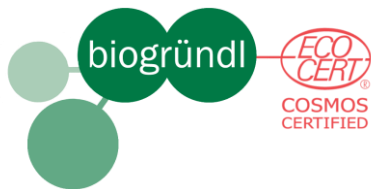
DERMATOLOGY INNOCUOUSNESS

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

EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Moisturizing action. Anti-inflammatory action.

N (volunteers): 30 (21 ♀ and 9 ♂).

Age (volunteers): 20 – 60 years old.

Left side part to be treated:

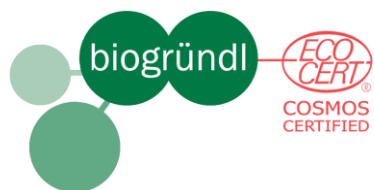
Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

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

Right side part to be treated:

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



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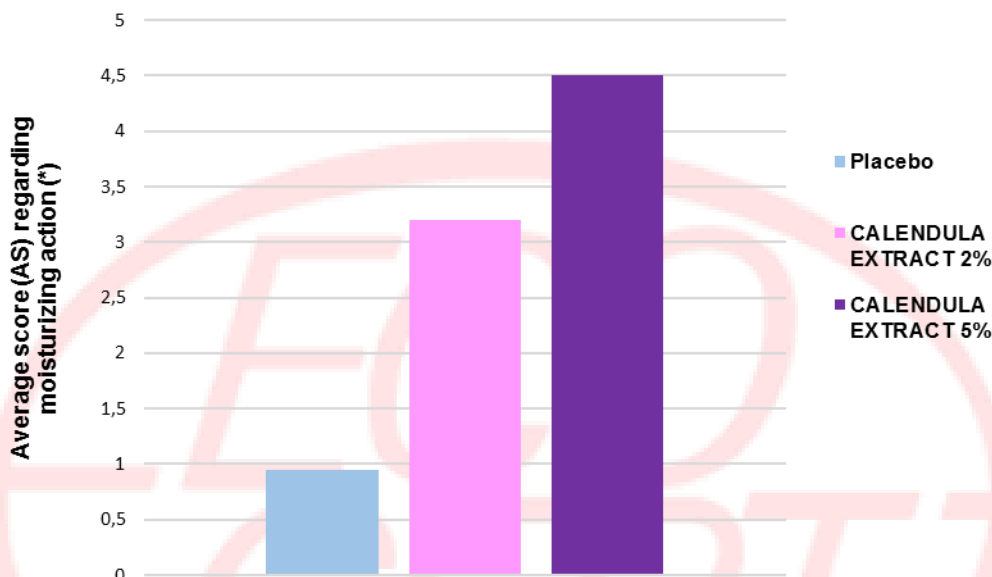
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Assayed parameters:

	Assay	N (volunteers)	Age (volunteers)	Placebo	CALENDULA EXTRACT 2%	CALENDULA EXTRACT 5%	Assay performed (Days)	Results measured (Days)
Moisturizing action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 21 ♀ 9 ♂	20 – 60	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 30
Anti-inflammatory action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 21 ♀ 9 ♂	20 – 60	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1

TECHNICAL DATA SHEET

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

Results meaning:

AS rank between 0 – 1: No significant changes.

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

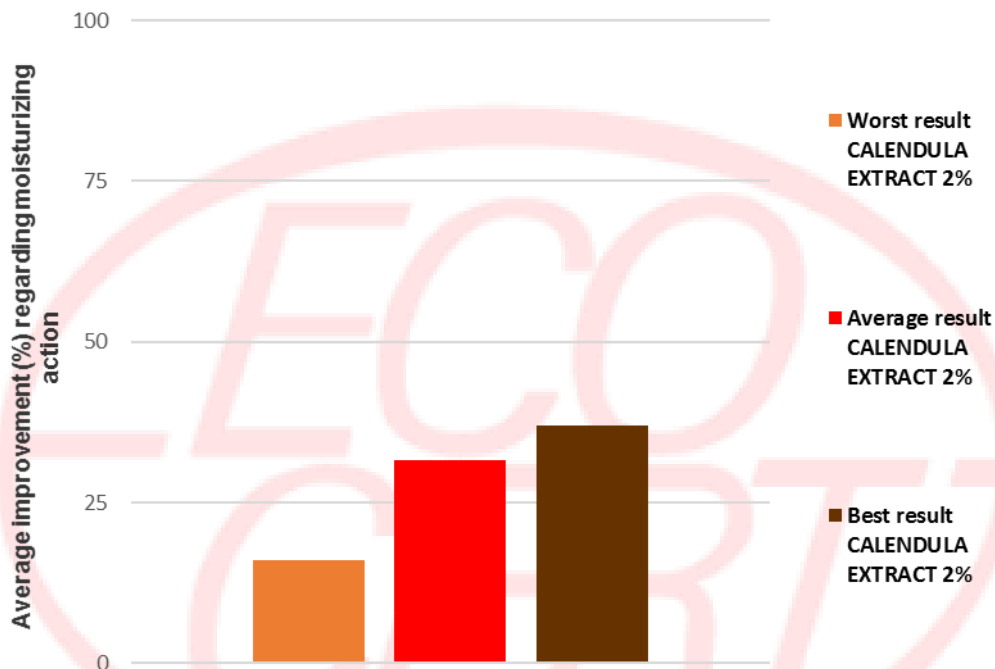
AS rank between 2 – 3: Appreciable improvement regarding placebo.

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

AS rank between 4 – 5: Excellent cosmetic result.

TECHNICAL DATA SHEET

CALENDULA EXTRACT 2%



Results:

Worst result CALENDULA EXTRACT 2%: 16%.

Average result CALENDULA EXTRACT 2%: 31,5%.

Best result CALENDULA EXTRACT 2%: 37%.

Results meaning:

AI rank between < 20%: No significant changes.

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

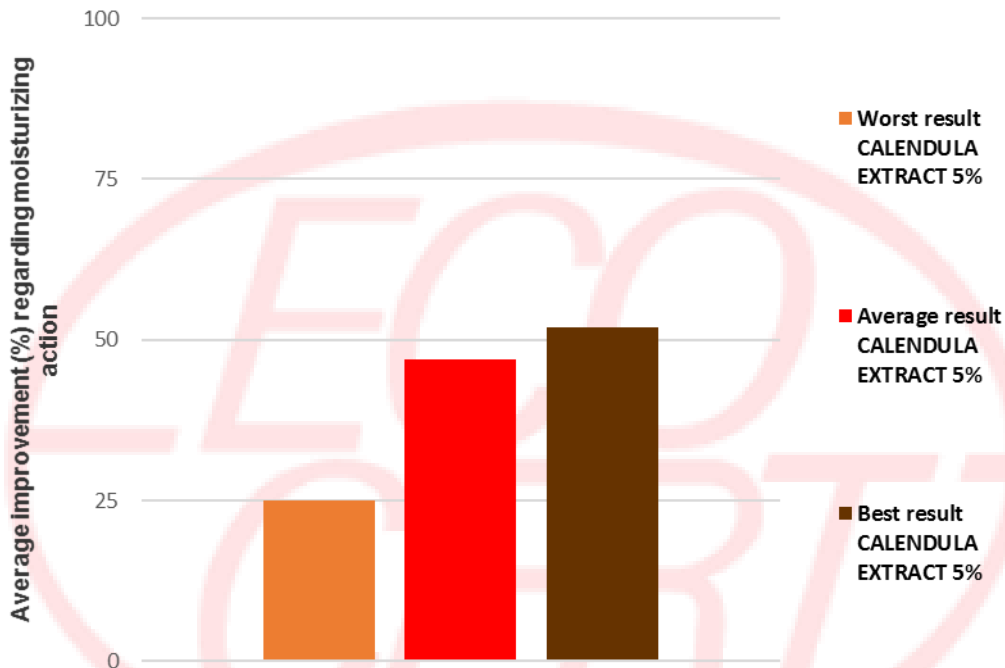
AI rank between 41 – 60%: Appreciable improvement regarding placebo.

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

AI rank between > 81%: Excellent cosmetic result.

TECHNICAL DATA SHEET

CALENDULA EXTRACT 5%



Results:

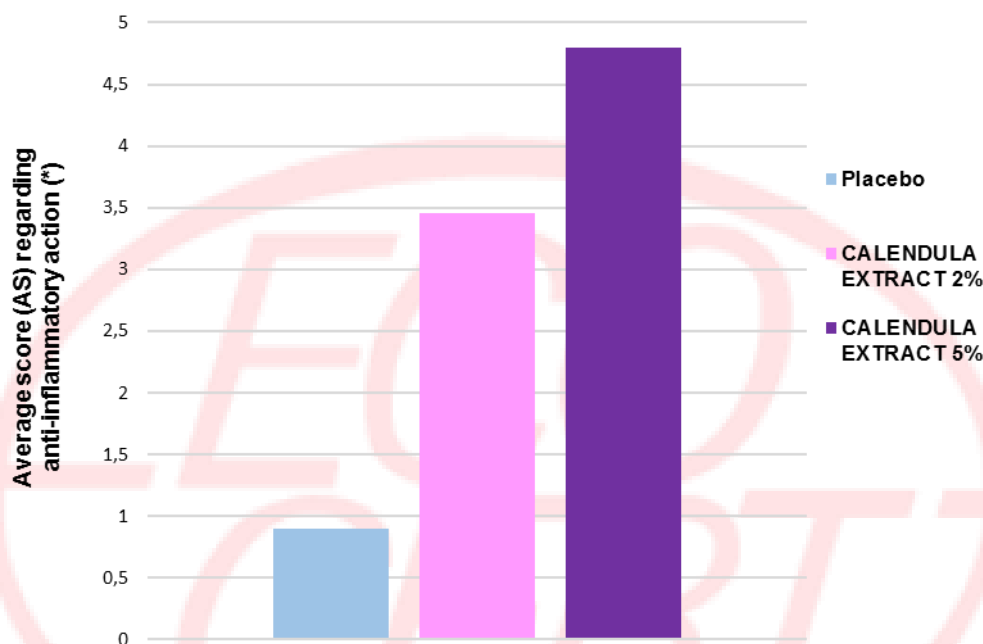
Worst result CALENDULA EXTRACT 5%: **25%**.
Average result CALENDULA EXTRACT 5%: **47%**.
Best result CALENDULA EXTRACT 5%: **52%**.

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.

TECHNICAL DATA SHEET

SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Anti-inflammatory action was determined by direct measurement and observation of inflammation reduction 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% CALENDULA EXTRACT by BIOGRÜNDL, S.L., 5% CALENDULA EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

AS rank between 0 – 1: No significant changes.

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

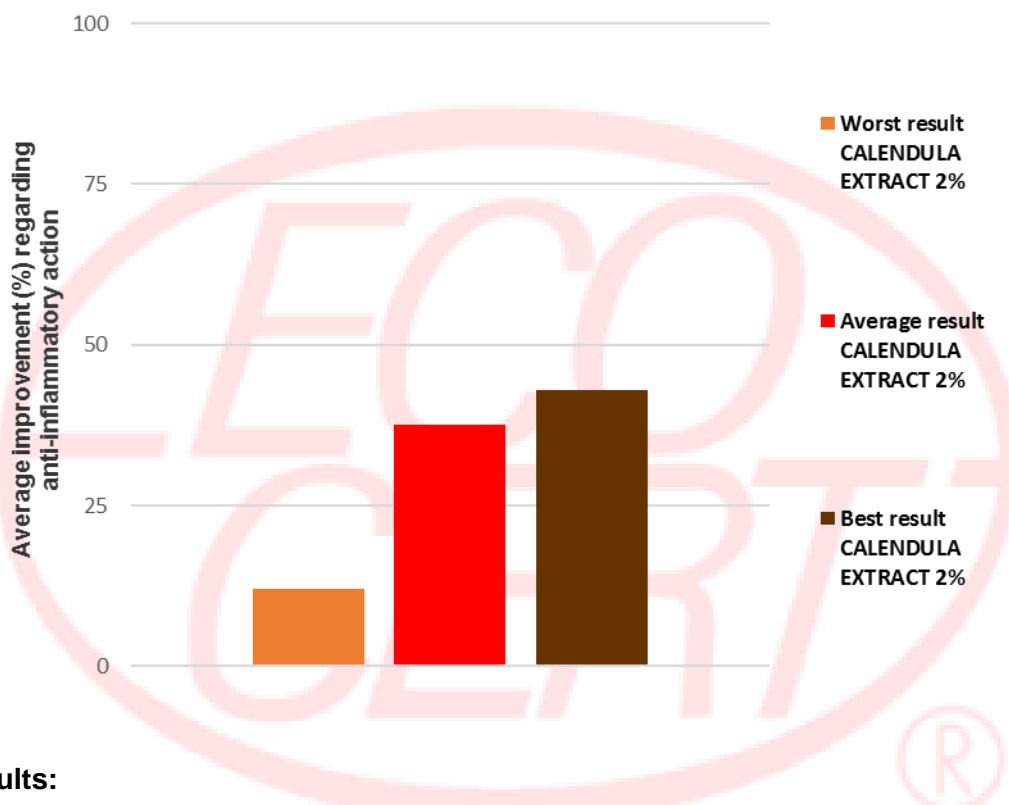
AS rank between 2 – 3: Appreciable improvement regarding placebo.

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

AS rank between 4 – 5: Excellent cosmetic result.

TECHNICAL DATA SHEET

CALENDULA EXTRACT 2%



Results:

Worst result CALENDULA EXTRACT 2%: **12%**.

Average result CALENDULA EXTRACT 2%: **37,5%**.

Best result CALENDULA EXTRACT 2%: **43%**.

Results meaning:

AI rank between < 20%: No significant changes.

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

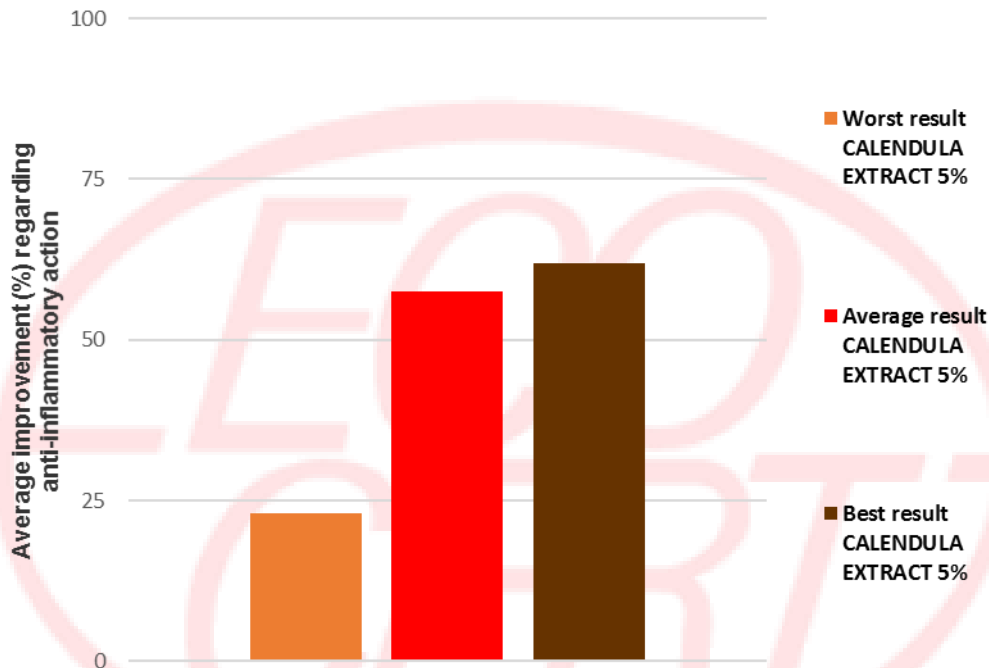
AI rank between 41 – 60%: Appreciable improvement regarding placebo.

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

AI rank between > 81%: Excellent cosmetic result.

TECHNICAL DATA SHEET

CALENDULA EXTRACT 5%



Results:

Worst result CALENDULA EXTRACT 5%: **23%**.

Average result CALENDULA EXTRACT 5%: **57,5%**.

Best result CALENDULA EXTRACT 5%: **62%**.

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.