

 **BERACA**



**BERACARE
TRIPLE A SYSTEM**

 active
**Performance
Systems**



BERACA presents a wide portfolio composed of fixed oils, butters, scrubs, clays and actives sustainably sourced from the Brazilian biodiversity. The ingredients come from extractive communities throughout Brazil and are manufactured to connect our biodiversity with thousands of consumers around the world. Through a relationship marked by transparency, traceability and innovation, Beraca contributes directly to regional development and environmental preservation.



GENERAL INFORMATION

Product Code: BA34010B

Related codes: BA34010BA00, BA34010BB05, BA34010BB46, BA34010BD19, BA34010BX15, BA34010BX18, BA34010BX36, BA34010BX45

Previous code: CTA-C040

COSMETIC USE

Beracare Triple A System is a complex of oils with anti-inflammatory, antiseptic and healing action. We indicate the use of this raw material in products such as gels, tonics, creams, lotions, soaps, sunscreens and makeup that aim at improving the health of compromised skin or oily, acneic skin.

EFFICACY EVALUATION

INTRODUCTION

Acne *vulgaris* is one of the most prevalent skin diseases. Affects about 80% of teenagers but may persist or start into adulthood. It is an inflammatory disease, pyoderma, that reaches the pilo-sebaceous complex (hair and sebaceous gland). Acne lesions are popularly known as blackheads and pimples, and most often appear in places that can not be hidden such as the face and are also quite common on the shoulders, back and chest. As a rule, they manifest themselves with moderate and discrete intensities. In some situations, the clinical manifestation is of such intensity that it can affect the individual aesthetically and socially, causing serious psychosocial damages, promoting isolation and low self-esteem.

In its development process, acne can reach several degrees:

- **Degree I:** It is characterized by the presence of open blackheads and closed whiteheads. The closed whitehead is characterized by a cutaneous elevation of whitish or yellowish color. The open blackhead usually does not show elevation, but a small black hard elevation can be observed due to the accumulation of melanin.
- **Degree II:** It is characterized by the presence of blackheads, erythematous papules (pimples) and pustules (pimples with pus). The picture varies in intensity, from few lesions to numerous, with very intense inflammation.
- **Degree Grade III:** There are blackheads, papules and pustules. Due to rupture of the follicular wall, there are inflammatory reactions that reach the depth of the follicle until the hair, forming furunculoid nodules. Within these nodules, the formation of pus may occur.
- **Degree IV:** is a severe form of acne, in which the anterior picture is associated with large and large purulent

(pus) nodules, forming abscesses and fistulas (“tunnels” that the body creates to carry a material to the surface) that drain pus.

• **Degree V:** Extremely rare, fever, leukocytosis (increased numbers of defense cells in the blood) and polyarthralgia (pain in several joints) suddenly appear.

Acne should be treated from the start and can be controlled through proper skin cleansing, removing excessive oiliness and avoiding new bacterial infections. Numerous types of soaps, sanitizing and astringent lotions are now available on the market to treat acne skin. Especially based on sulfur and salicylic acid, they aim to combat excess oiliness of the skin, however, their continuous use can dry out the skin making it even more irritated and promoting the “rebound effect” stimulating even more sebum production.

The use of vegetable oils for the treatment of acne and its lesions is a great choice for functional cosmetics. In addition to proper cleaning the vegetable oils can act on bacterial growth and healing of the lesions by keeping the skin hydrated and healthy and avoiding unwanted side effects.

Beraca’s Beracare Triple A System active is a complex that contains assets of copaiba, andiroba, and açaí oils that combine the following properties:

- Reduction of inflammation
- Healing of acne lesions
- Promotes balance of sebum production without drying the skin
- Combats bacterial growth

OBJECTIVE

The objective of the study was to evaluate the effectiveness of Beracare Triple A System active, applied at 2%, in formulation and improvement of acne by counting skin lesions through digital photography and sensorial analyzes for perceived efficacy.

METHODS

1. Laboratory

The study was conducted in an independent laboratory, the *Kosmoscience Ciência & Tecnologia Cosmética Ltda.* Study reference: BC006-08 - R0.

2. Experimental groups and treatments

The experimental groups and their respective treatments are listed in table 1.

Table 1. Test product used in study protocol BC006-08.

Experimental group	Treatment
BERACARE TRIPLE A SYSTEM	Moisturizer containing Beracare Triple A System at 2.0%

All products were stored at room temperature for the duration of the study.

3. Methodology

The clinical trial used 30 volunteers, ages 14 to 30, who were graded with grade I or II acne by a dermatologist. All were instructed to discontinue the use of any cosmetic products applied to the face 48 hours before the start of the study, as well as the use of topical or oral medications for acne control during the study period.

The volunteers underwent a treatment with daily application of moisturizer containing 2% Beracare Triple A System for 56 days. The initial condition of each volunteer was the reference for the control of the evaluations.

The evaluations were based on obtaining high resolution digital photographs, under controlled technical conditions, at the beginning of the study (t_0) and after 21, 42 and 56 days (t_{21} , t_{42} and t_{56} , respectively) of treatment. The initial condition (t_0) of each volunteer was the reference for the **Control** group of evaluations.

To obtain the digital photographs, a digital camera model Nikon D70s was used.

The images were obtained in an environment with 100% artificial lighting. At each photographic evaluation of the volunteer, a photo of each side of the face was obtained at 45°, coinciding with the center of the objective at the height of the eye line and a frontal photo. The parameters were kept constant for each volunteer, allowing the comparison between images.

The images were made with blackheads and whiteheads and pimples (erythematous papules and pustules) present in the zygomatic and frontal bone regions. The sum of the lesions was statistically compared to the **Control** value (beginning of treatment) using the paired Student's t-test, with a 95% confidence interval, for each time evaluated.

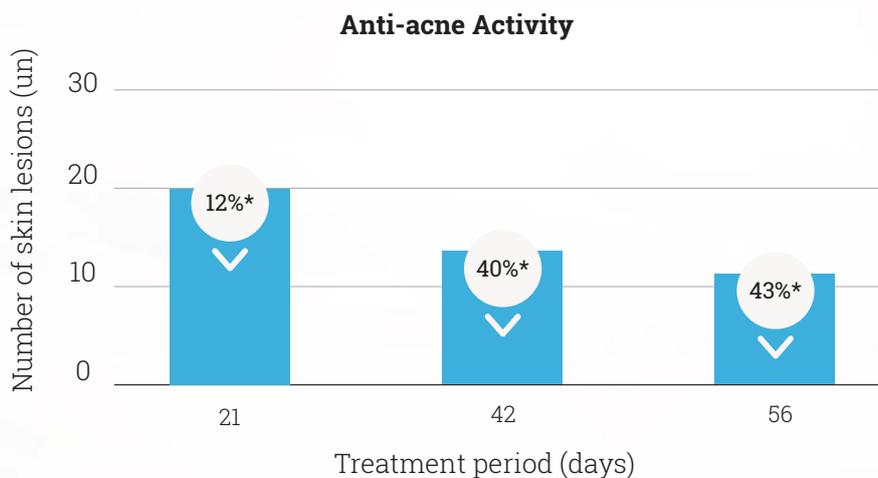
The percentage of lesion decrease after 21, 42 and 56 days of use of the test product was calculated using equation 1.

$$\%Decrease \text{ in number of lesions} = [(S_0 - S_i) / S_0] * 100$$

Equation 1. Percentage decrease in lesions calculated after i days of use of the test product ($i = 21, 42$ and 56 days) from baseline (S_0). S_0 = number of initial lesions and S_i = number of lesions after i days of treatment.

RESULTS

Graph 1 shows the results obtained after 21, 42 and 56 days of treatment with Beracare Triple A System at 2% and the reduction in the number of total lesions when compared to the control. The decrease in the number of lesions after 21 days of home use reached a mean reduction of 12%, 40% after 42 days and 43% after 56 days of treatment, proving a statistically significant performance of the active in the treatment and prevention of acne.



*Statistical significance $p < 0.05$ compared to the condition before treatment.

In vivo evaluation results of anti-acne activity of AAA active at 2.0%. The treatment had a 56 days duration and the applications occurred once a day at night.

Graph 1. Mean score of lesion counts after *in vivo* evaluation of AAA Asset anticnetic activity applied to 2.0%. The treatment had a duration of 56 days with applications once a day at night.

CONCLUSION

The daily use of the Beracare Triple A System active on facial skin for 56 consecutive days provided a significant 43% decrease in the number of acne lesions.

Regarding the perceived sensory analysis, 86% of the volunteers reported good acceptance of the product to the treatment of acne control.

Thus, Beracare Triple A System active at 2% is effective in the treatment of acne and can be used in formulations aimed at the control, prevention and reduction of this condition. In addition, this complex features vegetable oils that provide health, hydration and balance to skin reducing the chance of unwanted side effects.

ATTACHMENT

FORMULATIONS USED IN TESTS

MOISTURIZER CONTAINING BERACARE TRIPLE A SYSTEM AT 2.0%	
INGREDIENTS	% w/w
<i>Aqua</i>	Up to 100%
<i>Dissodium EDTA</i>	0.01
<i>Beracare Triple A System</i>	2.00
<i>PPG-15 Stearyl Ether</i>	1.60
<i>Steareth-2</i>	1.40
<i>Steareth-21</i>	1.00
<i>Cetearyl Alcohol</i>	6.00
<i>Carbopol 940</i>	5.00
<i>Ethylhexyl Palmitate</i>	1.00
<i>Helianthus Annus (Sunflower) Seed Oil</i>	1.00
<i>Aqua</i>	10.00
<i>Imidazolidinyl Urea</i>	0.30
<i>Fragrance</i>	0.50

PHYSICAL AND CHEMICAL PROPERTIES

ANALYSIS	UNITS	SPECIFICATIONS
Appearance	Visual	Liquid
Color	Visual	Yellow to greenish
Color (Lovibond)	-	< 15.0R / < 70.0Y / < 1.0B / <1.0N
Color (Gardner)	-	< 15.0
Specific gravity (20°C)	g/cm ³	0.890 – 0.940
Refractive index (20°C)	-	1.475 – 1.495
Acid value (as oleic acid)	%	< 5.0

MICROBIOLOGICAL ANALYSIS

Total bacteria h. m.	cfu/g	< 100
Fungus and yeasts	cfu/g	< 100

STORAGE INFORMATION

- **Conditions** → Dry, cool, airy place, away from light and heat and other sources in an environment with constant temperature not exceeding 25°C
- **Container** → Nitrogen blanketed

IMPORTANT OBSERVATIONS

- Considering that this is a natural product, if the storage guidelines are not met, the physicochemical characteristics may vary, reducing the shelf life.
- After opening the product it should be used as soon as possible. Contact with oxygen generates an oxidative process reducing the shelf-life of the product.
- Due to the uniqueness of each oil, it is not possible to establish a parameter in relation to oxidative exposure period.
- Natural oil substances and waxes could settle during storage and develop a slight sedimentation at the bottom of the container. Please have this in mind when emptying the container.
- The above information was developed through the methods and practices contained in AOCS (American Oil Chemists' Society).

REGULATORY INFORMATION

INCI name (PCPC)	CAS Number
COPAIFERA OFFICINALIS (BALSAM COPAIBA) RESIN	8001-61-4
CARAPA GUAIANENSIS SEED OIL	352458-32-3
EUTERPE OLERACEA FRUIT OIL	861902-11-6
INCI name (COSING)	CAS Number
COPAIFERA OFFICINALIS RESIN	8001-61-4
CARAPA GUAIANENSIS SEED OIL	352458-32-3
EUTERPE OLERACEA FRUIT OIL	861902-11-6



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