

 **BERACA**



**BERACARE ARS  
HAIR 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:** BA34310B

**Related codes:** BA34310BA00, BA34310BB05, BA34310BB46, BA34310BD19, BA34310BX15, BA34310BX18, BA34310BX36, BA34310BX45

**Previous code:** CTA-C043

## COSMETIC USE

Beracare ARS Hair System is a natural complex with properties that promote intense glow, revitalization and capillary hydration. Its use is indicated in products such as shampoo, conditioner, capillary mask, boosters, leave-in and finishing oils, as well as other hair care formulations. It can be used as an alternative to silicone in promoting gloss and softness.

## EFFICACY EVALUATION

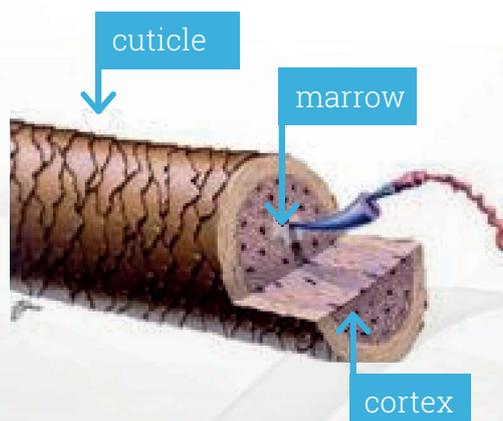
### INTRODUCTION

Hair is a natural fiber formed by keratin. According to its geometry and physical structure, the hair has various properties, such as elasticity, softness, volume, combability and shine.

Based on its morphology, the hair has three layers:

- Cuticle: outermost layer, contains a high level of cysteine. Acts as protector of the innermost layer, the cortex.
- Cortex: Part the hair with greater mass. Formed by very fine fibers, it has melanin granules which determine the color and photoprotection of yarns according to its quantity. straightening / permanent and color processes occur in this hair region.
- Marrow: central fiber, it may be discontinuous or absent in certain types of hair.

Figure 1 below shows a scheme of the hair fiber.



(SOURCE: Fitocosmetic)

**Figure 1.** Schematic representation of the hair fiber.

Chemical or mechanical traumas that alter the chemical structure of hair cause damage to the hair fiber related to strength, gloss, porosity, texture, color, among others. Products used in coloring, discoloration and straightening promote these changes in the structure of the hair fiber, raising the edges of the scales of the cuticle and modifying the chemical bonds responsible for fiber cohesion, this structural disorganization of the scales leaves the fiber vulnerable to external aggressions, promoting the drying and making the touch rough.

As a consequence, the hair loses its gloss and frizz appears. Weakened to the extreme, the hair wears down and becomes brittle, affecting the cortex due to the disconnection of the cuticle.

The use of vegetable oils for hair treatment has several benefits. They are able to act on the fibers and directly on the scalp, bringing nourishment through liposoluble vitamins, and as well as moisturizing, emolliency and lubricating properties to give a smooth, malleable and healthy appearance.

Fatty acids, the major constituents of vegetable oils, are able to rebuild the surface of damaged hair and protect them from further damage and loss of moisture.

Beraca's **ARS Hair System** active is an exclusive complex that contains active ingredients of açai, passion fruit and rice oils that combine the following properties:

- Active: omega-6, flavonoids and gamma-oryzane
- Increased vitality and hair health
- Protective film former and gloss promoter
- Hair revitalization

To evaluate this potential, Beraca investigated the **Beracare ARS Hair System** active for hair treatment.

## **OBJECTIVE**

The objective of the study was to evaluate the effectiveness of hair treatment (shampoo + conditioner) with **Beracare ARS Hair System** at 2.0% for hair revitalization through sensorial analysis in "beauty salon test".

## **METHODS**

### **1. Laboratory**

The study was conducted in an independent laboratory, the *Kosmoscience Ciência & Tecnologia Cosmética Ltda.*  
Study reference: BC008-08 - R0.

## 2. Experimental Groups and Treatments

Table 1 presents the experimental groups and their respective treatments for this evaluation.

**Table 1.** Products used in study protocol BC008-08.

Experimental group	Treatment
PLACEBO	Shampoo without Beracare ARS Hair System
	Conditioner without Beracare ARS Hair System
BERACARE ARS HAIR SYSTEM	Shampoo containing Beracare ARS Hair System at 2.0%
	Conditioner containing Beracare ARS Hair System at 2.0%

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

## 3. Methodology

The efficacy evaluation of the samples studied was performed sensorially by the method known as “beauty salon test”. This method makes it possible to evaluate the efficacy of a cosmetic product applied under normal conditions of use in a panel of volunteers corresponding to the target consumers of the product.

The test consisted of evaluating and comparing results of, two hair treatment lines, each one being applied to one half of the head of the volunteers.

### 3.1 Application Protocol for treatments

In each volunteer, two half-head treatments, **Placebo** and **Beracare ARS Hair System**, were performed.

Both tests consisted of: two consecutive washes, each using 5 mL of the shampoo of the respective treatment applied to the previously moistened hair, massaging for 2 minutes, followed by the rinse with running water for 1 minute. Subsequently, 5 ml of the respective conditioners were applied to the wet hair, massaging for 2 minutes, followed by rinsing in running water for 1 minute. After, the hair was dried using a hair dryer.

### 3.2 Assessment

The evaluation of the treatments was established by obtaining a questionnaire with the grades indicated by the volunteers, considering a hedonic scale of five points. From the obtained results, the frequency analysis of the hedonic grades for each evaluated attribute was carried out, according to the following bands:

- Grades 1 and 2 (“terrible” and “bad”): ineffective or inadequate product;
- Grades 3 (“regular”): efficacy was not perceived or treatment adequacy assessed as “regular”;
- Grades 4 and 5 (“good” and “optimal”): the effectiveness or suitability of the treatment was perceived.

Statistical evaluations among treatments were performed using the Student’s t-test, bimodal, paired, considering a 95% confidence interval.

## RESULTS

The results obtained by the volunteers in the final evaluation after the treatments are presented in Tables 2 and 3 and illustrated, on average, in Graph 1.

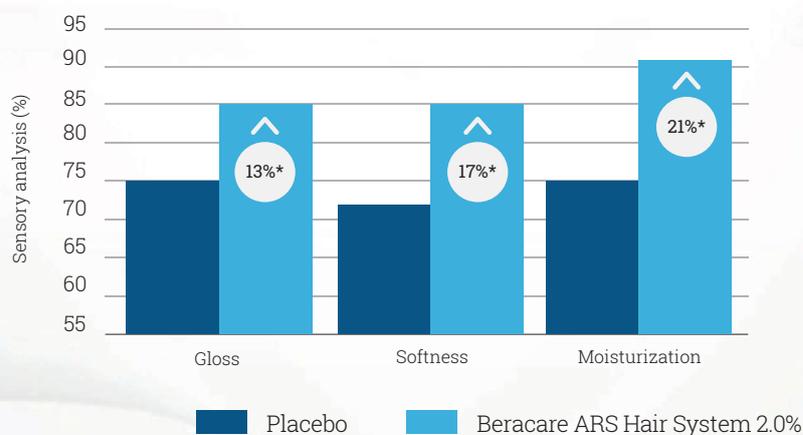
**Table 2.** Evaluation of the efficacy of **Placebo** by means of hedonic scale of grades.

QUESTIONS		PERCENTAGE DISTRIBUTION OF ASSIGNED GRADES				
		1	2	3	4	5
After dry	Gloss	0.0	3.0	22.0	44.0	31.0
	Softness	0.0	6.0	13.0	34.0	47.0
	Hydration	0.0	9.0	16.0	34.0	41.0

**Table 3.** Evaluation of the efficacy of **Placebo** by means of hedonic scale of grades.

QUESTIONS		PERCENTAGE DISTRIBUTION OF ASSIGNED GRADES				
		1	2	3	4	5
After dry	Gloss	0.0	3.0	12.5	40.5	44.0
	Softness	0.0	3.0	12.5	44.0	40.5
	Hydration	0.0	3.0	6.0	47.0	44.0

### Sensory analysis of hair revitalization



\* Statistical significance  $p < 0.05$  compared to Placebo.

Results of sensory analysis of capillary revitalization of the Beracare ARS Hair System active at 2.0%, after "beauty salon test".

**Graph 1.** Results of sensory analysis of capillary revitalization of Beracare ARS Hair System at 2.0%, after single application via "beauty salon test".

According to the frequency analysis of the hedonic notes, it was possible to verify that the treatment with **Placebo** was able to promote a brightness considered adequate by 75.0% of the volunteers; Considered adequate by 81.0% of the volunteers; And adequate hydration promotion for 75.0% of the volunteers.

The treatment with **Beracare ARS Hair System** was able to promote adequate glare by 84.5% of volunteers; Considered adequate by 84.5% of the volunteers; And adequate hydration promotion for 91.0% of the volunteers.

### CONCLUSION

Based on the results of the study, the treatment containing **Beracare ARS Hair System** promoted greater gloss, softness and hydration when compared to **Placebo**.

Thus, being an active rich in omega-6 and flavonoids, it is proven that the **Beracare ARS Hair System** is able to promote intense brightness and vitality, and revitalize the hair fiber.

## ATTACHMENT

### FORMULATIONS USED IN TESTS

PLACEBO SHAMPOO	
INGREDIENTS	% w/w
<i>Aqua</i>	Up to 100%
<i>Dissodium EDTA</i>	0.01
<i>Sodium laureth-2 sulfate</i>	28.00
<i>Cocamidopropyl Betaine</i>	6.00
<i>Sodium laureth sulfate (and) glycol diestearate (and) Cocamide MEA</i>	3.00
<i>Cocamide DEA</i>	3.00
<i>Aqua</i>	10.00
<i>Imidazolidinyl Ureia</i>	0.30
<i>Fragrance</i>	0.50

SHAMPOO WITH BERACARE ARS HAIR SYSTEM AT 2.0%	
INGREDIENTS	% w/w
Aqua	Up to 100%
Dissodium EDTA	0.01
Sodium laureth-2 sulfate	28.00
Cocamidopropyl Betaine	6.00
Sodium laureth sulfate (and) glycol diestearate (and) Cocamide MEA	3.00
Cocamide DEA	3.00
<b>Beracare ARS Hair System</b>	<b>2.00</b>
Aqua	10.00
Imidazolidinyl Urea	0.30
Fragrance	0.50

PLACEBO CONDITIONER	
INGREDIENTS	% w/w
Aqua	Up to 100%
Dissodium EDTA	0.01
Cetrimonium Chloride	3.00
PPG-15 Stearyl Ether	0.80
Steareth-2	0.70
Steareth-21	0.50
Cetearyl Alcohol	3.50
Aqua	10.00
Imidazolidinyl Urea	0.30
Fragrance	0.50

CONDITIONER WITH BERACARE ARS HAIR SYSTEM AT 2.0%	
INGREDIENTS	% w/w
Aqua	Up to 100%
Dissodium EDTA	0.01
Cetrimonium Chloride	3.00
PPG-15 Stearyl Ether	0.80
Steareth-2	0.70
Steareth-21	0.50
Cetearyl Alcohol	3.50
<b>Beracare ARS Hair System</b>	<b>2.00</b>
Aqua	10.00
Imidazolidinyl Urea	0.30
Fragrance	0.50

## PHYSICAL AND CHEMICAL PROPERTIES

### ANALYSIS

Appearance

### UNITS

Visual

### SPECIFICATIONS

Liquid

Color

Visual

Yellow to greenish

Color (Lovibond)

-

≤ 12.0R / ≤ 70.0Y / ≤ 1.0B / ≤ 1.0N

Color (Gardner)

-

≤ 18.0

Specific gravity (20°C)

g/cm<sup>3</sup>

0.890 – 0.935

Refractive index (20°C)

-

1.470 – 1.490

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 is a natural product, if the storage guidelines are not met, the physicochemical characteristics may vary, reducing the shelf life.
- After opening the product should be consumed as soon as possible. Contact with oxygen generates an oxidative process by decreasing the shelf-life of the product.
- Due to the particularity of each oil, it is not possible to establish an oxidative parameter for the period of exposure.
- 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 has been developed with the methods and practices set out in AOCS (American Oil Chemists' Society).

### REGULATORY INFORMATION

INCI name (PCPC)	CAS number
PASSIFLORA EDULIS SEED OIL	97676-26-1
ORYZA SATIVA (RICE) BRAN OIL	68553-81-1
EUTERPE OLERACEA FRUIT OIL	861902-11-6
INCI name (PCPC)	CAS number
PASSIFLORA EDULIS SEED OIL	97676-26-1
ORYZA SATIVA BRAN OIL	68553-81-1
EUTERPE OLERACEA FRUIT OIL	861902-11-6



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