

QUATTRO



ASSESSA

INNOVATION FOR A GREENER WORLD

NATURAL
ORIGIN
99.00%

SOLUTIONS FOR CURLY AND COILY HAIR



**UNTANGLES
AND
PREVENTS
FAIRY KNOTS
FROM
FORMING**

QUATTRO detangles, replenishes hair mass, nourishes, moisturizes, softens, and protects hair against heat damage.

Curly and coily hair are characterized by **a lack of alignment, increased volume, and difficulty combing**. Curls and coils are also naturally more susceptible to tangles, damage, and breakage. **QUATTRO** is a **vegetable emulsion** made from **plant-derived** ingredients, rich in **unsaturated fatty**

acids, vegetable proteins and **polymers** that form a protective film over the cuticle, deeply nourishing and conditioning the strands, improving detangling and preventing the formation of fairy knots. It is an **active ingredient** that meets the specific needs of **type 3 and 4 hair**, prioritizing the **integrity** and **beauty** of **curly** and **coily hair**.



TESTS QUATTRO

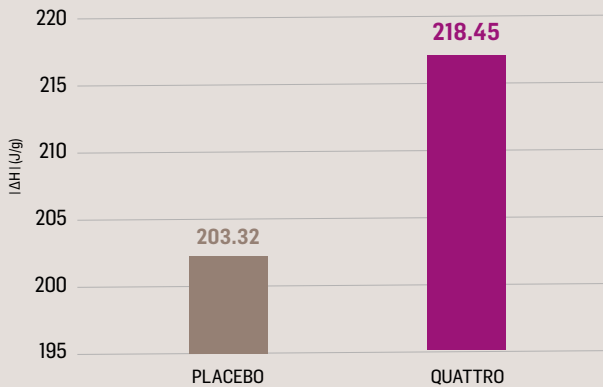
1 Hydration and Thermal Protection by Calorimetry (DSC)

Two strands of type 3C – 4A hair were selected for the study. One strand was treated with placebo leave-on, while the other strand with leave-on

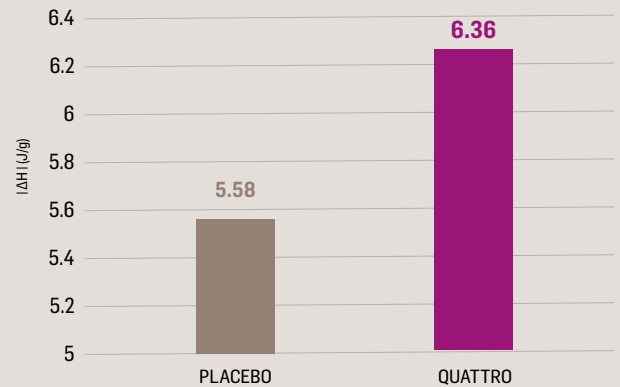
containing 2% QUATTRO, and then subjected to heat-induced calorimetric analysis (DSC) to evaluate the thermal behavior of the hair.



WATER EVAPORATION



THERMAL PROTECTION



HAIR MOISTURIZING

Analysis of the thermograms (DSC) revealed the energy required for the evaporation of water and the denaturation of keratin in the hair. A **7.5% increase in water evaporation energy** was observed in hair treated with QUATTRO,

demonstrating its **ability to hydrate the hair**, a crucial factor for hair health.

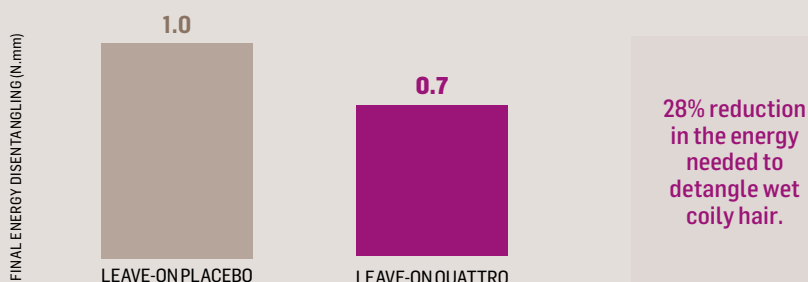
THERMAL PROTECTION

Furthermore, QUATTRO demonstrated greater thermal protection, evidenced by a

14% increase in the energy required to denature the α -keratin of the strand treated with the active ingredient, compared to the hair treated with the placebo. These results mainly highlight the effectiveness of QUATTRO in moisturizing hair and protecting against heat-induced damage.

2 Effectiveness in detangling wet coily hair

DETANGLING WET COILY HAIR (% ENERGY REDUCTION)



The detangling of wet coily hair was measured before and after treatments using the Instron 23-2S equipment for testing. The results can be seen in the graph on the side. The QUATTRO leave-on (2%) **improved the detangling of wet coily hair by 28%** (1.4 times when compared to hair treated with placebo leave-on).

TESTS QUATTRO

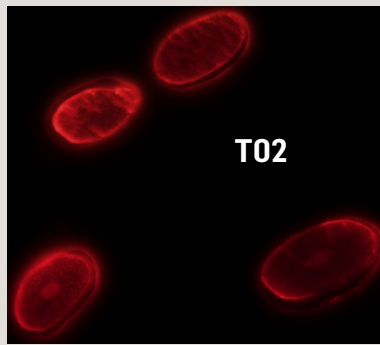
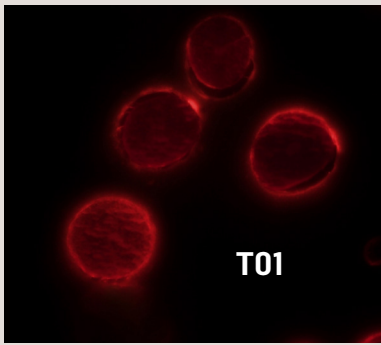
3 Penetration into the hair fiber (nutrition)

The ability of QUATTRO to penetrate and nourish the hair fiber was evaluated by fluorescence microscopy. To do this, the strands were immersed in Rhodamine B, a fluorescent dye that binds to damaged

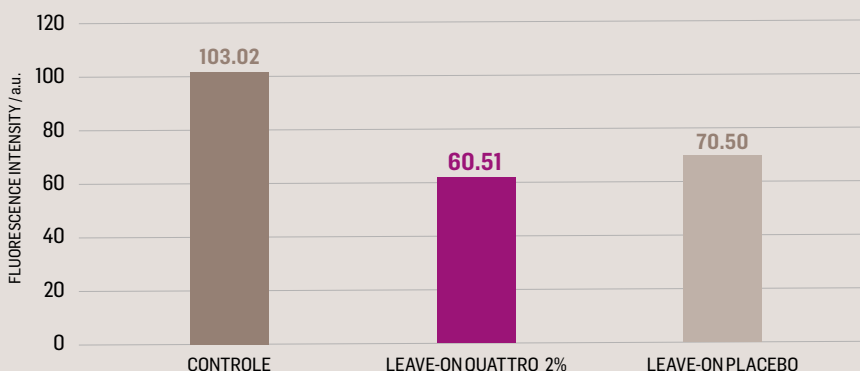
areas of the hair. The intensity of fluorescence observed under the microscope indicates the degree of penetration of the product: **the lower the fluorescence, the greater the penetration.**

MICROSCOPY

Fluorescence microscopy images of representative cortical segments of the **control (CTRL)**, **QUATTRO 2% leave-on (T01)**, and **placebo leave-on (T02)** groups.



FLUORESCENCE INTENSITY (AVERAGE ± STANDARD DEVIATION)



Hair samples subjected to treatment with QUATTRO (2%) showed LOWER fluorescence intensity than those of the control and placebo groups, indicating greater active ingredient penetration into the hair.

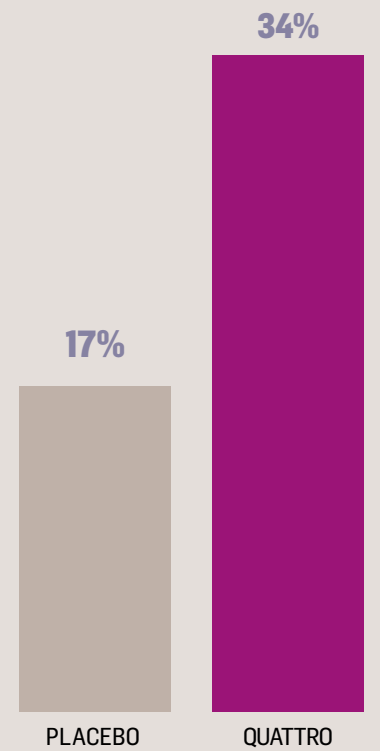
The QUATTRO leave-on treatment (2%) showed better efficacy for the claims of “deep nutrition,” “fiber healing,” and “mass replacement” when compared to the CTRL and placebo groups.

4 Hair softness through the Ring Compressibility Method

The objective of this test was to evaluate the softness of hair fibers through the Ring Compressibility Method.

VARIATION IN SOFTNESS

$$(S_{ctrl} - S_{trt}) / S_{ctrl}$$



The formula with QUATTRO improved hair softness by 34% and is 20% better than the placebo.



QUATTRO

MAIN COMPONENTS

A DELICATE BALANCE

There is a careful balance in adding each component to obtain **QUATTRO** with the efficiency to recover and maintain the integrity and beauty of curly and coily hair.



CHIA

Salvia hispanica

It is a rich source of omega-3 fatty acids, fiber, protein, antioxidants, and several essential minerals. The soluble fibers in chia, known as mucilage, form a protective film that seals moisture in the hair, providing intense hydration. By sealing the hair cuticles, the natural shine returns to the hair, leaving it more

vibrant and healthy. Omega-3 fatty acid helps to strengthen the hair structure, making the strands more resistant to breakage. Proteins are essential for building and repairing hair strands, helping to rebuild the hair fiber, making it more resistant, and improving the tension/deformation properties of the strands.



JOJOBA

Simmondsia chinensis

Jojoba oil is one of the most versatile and beneficial vegetable oils for hair. Its molecular structure is very similar to the natural sebum produced by the scalp,

which allows it to penetrate deep into the hair strands, providing deep and long-lasting hydration. Jojoba oil replenishes lipids and nutrients, balancing the structure and properties of the hair.



GUAR

Cyamopsis tetragonoloba

Guar gum is a natural conditioning agent that helps moisturize, detangle, and soften hair. It forms a protective barrier around the strands, which retains moisture and prevents dryness. Its film-forming properties help provide an intense shine and silky touch.

UPCYCLE

Upcycling is a transformation process where byproducts and materials that would otherwise be discarded are brought to life as high-quality, higher-value products. In creating QUATTRO, we used upcycling to develop an innovative technology that recovers valuable molecules from the waste from chia seed processing. The result? A unique product that contributes to a greener future.

INCI NAME

Salvia hispanica (Chia) Seed Extract, Cyamopsis tetragonoloba (Guar) Gum, Simmondsia chinensis (Jojoba) seed oil, Lecithin, Glyceryl Stearate, Squalane, Sodium Benzoate and Potassium Sorbate.

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