

# Coconut-Avocado Hair Milk

Restoring Lipid-Moisture Balance to the Hair



**PRODUCT:** Coconut-Avocado Hair Milk

**INCI NAME:** Water (and) Cocos Nucifera (Coconut) Oil (and) Persea Gratissima (Avocado) Oil (and) Propanediol (and) Glyceryl Stearate (and) Phospholipids (and) Cocos Nucifera (Coconut) Liquid Endosperm (and) Cocos Nucifera (Coconut) Fruit Juice (and) Polyglyceryl-10 Oleate (and) Polyglyceryl-10 Dioleate (and) Cetearyl Alcohol (and) Sodium Stearoyl Lactylate (and) Glycerin

**EINECS #:** 231-791-2, 232-282-8, 232-428-0, 207-997-3, 250-705-4, N/A, N/A, N/A, 279-230-0, 251-750-2, 267-008-6, 246-929-7, 200-289-5

**CAS #:** 7732-18-5, 8001-31-8, 8024-32-6, 504-63-2, 31566-31-1, 123465-35-0, N/A, N/A, 79665-93-3, 33940-99-7, 67762-27-0, 25383-99-7, 56-81-5

Preservative System: Glyceryl Caprylate (and) Glyceryl Undecylenate

## KEY BENEFITS

- Conditioning, Softening & Smoothing
- Shine & Anti-Frizz
- Improvement of Damaged Hair
- Helps Incorporate Oils into Surfactant Systems
- Compatible with Cationic Ingredients
- Naturally Derived
- Easy to Use, Spray-able
- Lightweight Feel
- Milky Texture
- Micro-droplets for Improved Delivery
- Fast Absorbing Non-Greasy

## IDEAL FOR USE

- Cleansers, Shampoos and Conditioners
- Hair Masks & Treatments
- Hair Styling Products
- Boosters/Enhancers
- Spray-able Formulations
- Cold Process Formulations
- Creams, Lotions & Cream-gels
- Serums
- Milks
- Foundations & Primers



## WHAT IS COCONUT-AVOCADO HAIR MILK?

**Coconut-Avocado Hair Milk** is a stable, water-thin, oil-in-water emulsion designed specifically for use in hair care. Utilizing oils with known benefits for hair, it is prepared by ultrasonic cavitation along with a plant-based, biomimetic phospholipid resulting in the formation of micro-droplets. **Coconut-Avocado Hair Milk** uses carefully selected botanical ingredients, resulting in a multi-functional product that provides proper oil and moisture balance with an improvement in shine, frizz and overall appearance of the hair.

## WHAT DOES COCONUT-AVOCADO HAIR MILK DO?

**Coconut-Avocado Hair Milk** easily penetrates and nourishes the hair. With nearly half of its fatty acid profile made up of Lauric Acid, coconut oil has a natural affinity for hair. Hair protein easily binds with Lauric Acid, which can gradually lead to the strengthening of hair strands, reducing breakage. In addition, the well-known qualities associated with coconut derivatives such as purification and revitalization, are subsequently beneficial for the hair. Avocado oil, rich in fatty acids and vitamins essential for healthy hair and skin, imparts an overall luxurious and creamy feel.

Gene expression studies conducted on the special phospholipid found in **Coconut-Avocado Hair Milk** show its ability to regulate genes and pathways responsible for bringing hair and skin into balance. The inclusion of this phospholipid also aids in the structuring and stabilization of the emulsion. The carefully selected combination of these ingredients in this milk helps fortify and condition the hair resulting in enhanced gloss and softness.

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## THE CONCEPT

Two exceptional fruits, coconut and avocado, are being widely used in personal care due to their many key benefits associated with beautiful, healthy skin and hair. **Coconut-Avocado Hair Milk** utilizes high quality oils, **Lipovol™ C-76** (Coconut Oil) and **Lipovol™ A** (Avocado Oil), along with **Distinctive™ Coconut Water**, resulting in an easy-to-use ingredient that provides an improvement in shine, frizz and overall appearance of the hair.

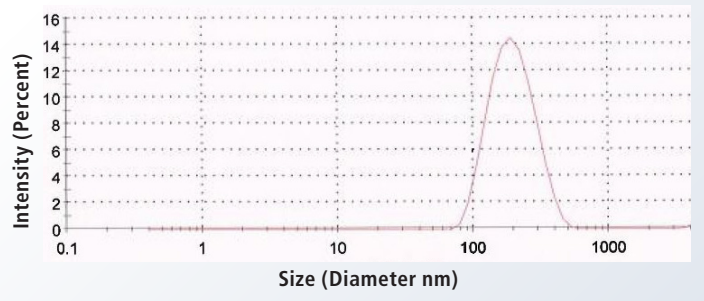
The coconut tree is native to the Asia Pacific region, grown in Indonesia, the Philippines and India. Coconuts have been used for centuries in tropical countries as a source of food, as well as for moisturizing and hydrating properties and for medicinal purposes to treat hair loss, wounds and burns. Featuring high levels of lipids, including myristic acid and palmitic acid along with medium chain triglycerides (lauric, caprylic, capric and caproic acids), coconut oil provides superior absorption, conditioning, fortifying and emollient properties. Coconut water naturally contains electrolytes, amino acids, vitamins, cytokinins and minerals that are highly beneficial to skin and hair.

Native to Mexico and South America, the precious fruit of the avocado tree has been used for its intense hydration and conditioning properties on skin and hair. The multifunctional, botanical oil from the fruit is rich in antioxidants, with high levels of Omega-6 and -9 fatty acids and Vitamin E. It is ideal for improving absorption and spreadability of formulas, creating a high-gloss finish.

## HOW CAN COCONUT-AVOCADO HAIR MILK BE USED?

**Coconut-Avocado Hair Milk** is stable, versatile and easy to use, suitable even for sprayable and cold process formulas. The recommended use level for this milk is up to 20% in a variety of hair care applications, including shampoos, conditioners, masks, treatments and styling products. It can also be promoted at 100% as a booster for consumers to mix with their existing beauty products for skin and hair. To be used in a formulation, **Coconut-Avocado Hair Milk** can be added in post-emulsification, post-neutralization or as a final step at temperatures below 35°C. High shear mixing should not be used during or after incorporation. The ideal pH range for systems containing **Coconut-Avocado Hair Milk** is between 4.0 – 8.0.

### Micro-Droplet Size - Particle Size Distribution



ACTIVE PERFORMANCE MILKS

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## TYPICAL PROPERTIES OF COCONUT-AVOCADO MILK

Appearance	White Liquid
Odor	Characteristic
pH	4.0 – 5.5
Specific Gravity	0.97 – 0.99
Recommended Use Level	1 – 100%; 1 – 20% in hair care formulations

### Renewing & Regenerating Properties

**Results obtained via WNT signaling pathway PCR array, a gene expression study that helps identify a product's mechanism of action (in-vitro):**

Coconut-Avocado Hair Milk's phospholipids stimulate genes involved in formation of hair follicles, skin cell renewal, skin cell turnover, skin regeneration, and other natural skin processes.

Gene Code	Fold Regulation vs. Control*	Comments
FZD8	7.3	Frizzled 8 (FZD8) decreases with age in progenitor cells. Its upregulation may "rejuvenate" these cells, making them more capable of tissue regeneration (Brunt et al., 2012)
FRAT1	3.6	Activator of WNT canonical signaling through inhibition of GSK-3.
JUN	2.4	JUN is a target of WNT canonical pathway. JUN is an early differentiation marker (Blatti & Scott, 1992; Murray et al., 2013) and an effector of TGF-β – a key effector in skin homeostasis.
SFRP1	2.2	SFRP1 Induces differentiation, inhibits proliferation of epithelial cells and negatively regulates WNT pathway.
WNT10A	2.1	Induced by TGF-β. Activator of WNT/β-catenin signaling. WNT10A, in addition to the formation of teeth and hair follicles, is of importance for the formation of nails, regeneration of the epidermis, papillae of the tongue and sweat gland function. Loss of function results in dry skin, abnormal hair patterns and nail malformations (Nawaz et al., 2009).
FZD2	2.0	Increased in differentiated tissues (Choi et al., 2008). Accordingly, Frizzled 2 (FZD2) increases the intracellular Ca <sup>++</sup> level, consistently with the role of this ion in keratinocyte differentiation (Niu et al., 2012).
WNT7B	2.0	WNT7B plays an important role in stem cell homeostasis and in the tissue repair and regeneration (Lin et al., 2010; Kandyba et al., 2013).
KREMEN1	-2.1	This encoded protein is a component of a membrane complex that modulates canonical WNT signaling.

\* Without the phospholipid

## DATA

### COCONUT-AVOCADO HAIR MILK SHINE STUDY

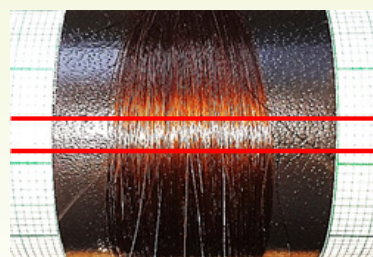
A study was conducted to measure the effects of **Coconut-Avocado Hair Milk** containing systems on the level of shine on damaged hair. The damaged hair tress was treated with a shampoo containing 1% **Coconut-Avocado Hair Milk** and a separate damaged hair tress was treated with a mask treatment containing 10% **Coconut-Avocado Hair Milk**. Both systems showed a noticeable increase in shine compared to that of the damaged control.



Shine Damaged Control



Shine Coconut-Avocado Hair Treatment



Shine Coconut-Avocado Shampoo



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## DATA

### COCONUT-AVOCADO HAIR MILK FRIZZ & APPEARANCE STUDY

In two separate studies on damaged hair, the effects of a shampoo containing 1% **Coconut-Avocado Hair Milk** (Study 1) and a mask treatment containing 10% **Coconut-Avocado Hair Milk** (Study 2) were observed.

Both studies revealed that systems containing **Coconut-Avocado Hair Milk** helped to improve the appearance of the damaged hair. In addition, both increased moisturization, improved the feel, and noticeably reduced the level of frizz.

Study 1



Frizz & Appearance  
Coconut-Avocado Hair Shampoo

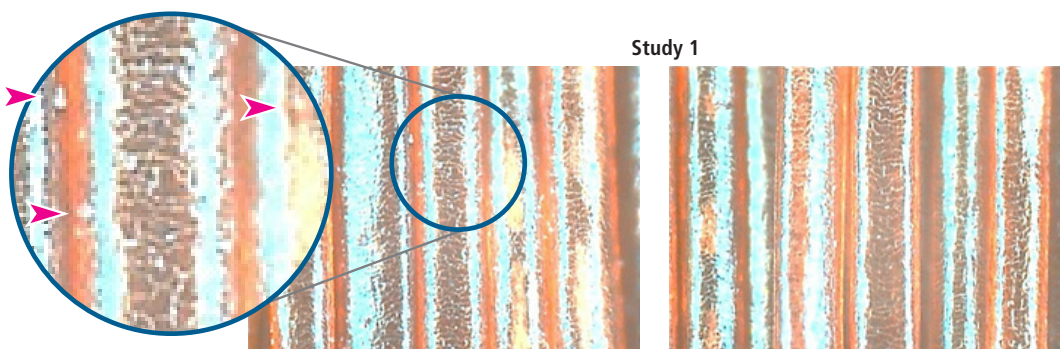
Study 2



Frizz & Appearance  
Coconut-Avocado Treatment

### COCONUT-AVOCADO HAIR MILK DAMAGED HAIR STUDY

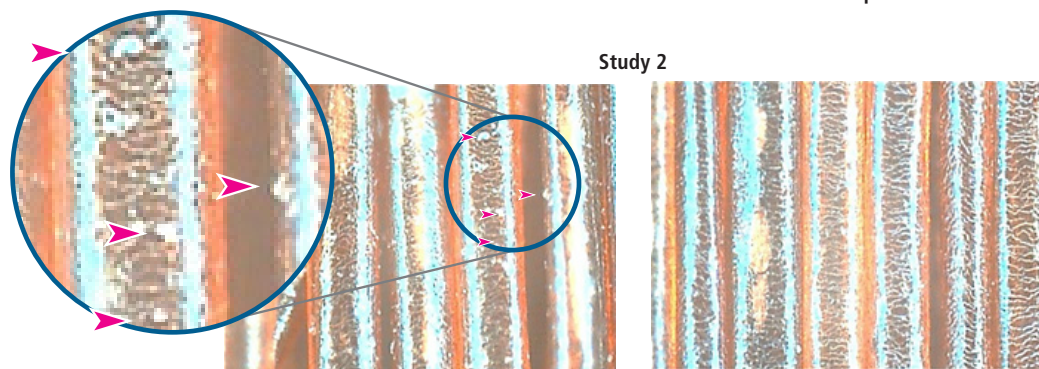
The hair from Study 1 and Study 2 was then evaluated using the Aramo TS with lens X-1000. Based on observations, both systems showed the **Coconut-Avocado Hair Milk** helped reduced flaking, closed the cuticle, and improved the overall condition of the hair.



Broken & Damaged Cuticle

Damaged Hair Cuticle before Coconut-Avocado Shampoo

Damaged Hair Cuticle after Coconut-Avocado Shampoo



Damaged Hair Cuticle before Coconut-Avocado Hair Treatment

Damaged Hair Cuticle after Coconut-Avocado Hair Treatment



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