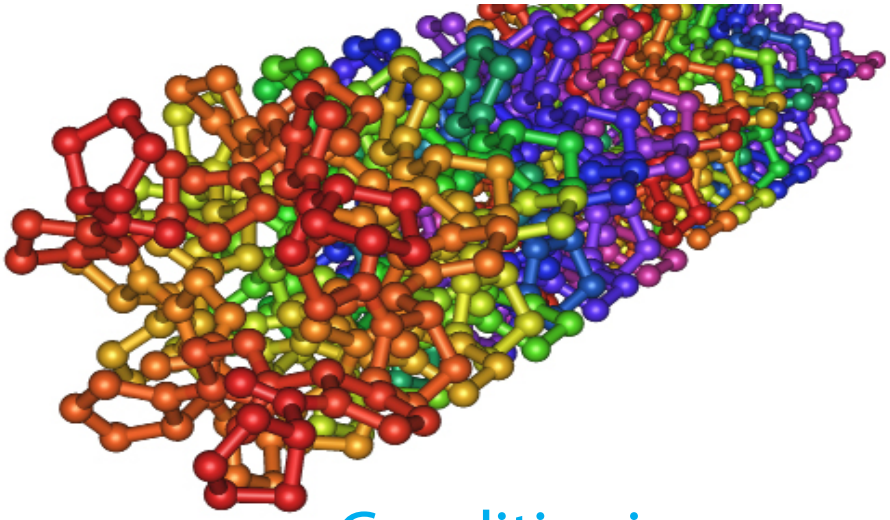
AC Foaming Collagen PF



Conditioning
Natural
Skin & Hair Care
Enhances Shine
Mild Foaming
Smoothing
Gentle Cleansing

Code Number: 20597PF

INCI Name: Potassium Cocoyl Hydrolyzed Collagen
INCI Status: Conforms
REACH Status: Complies
CAS Number: 68920-65-0
EINCS Number: N/A

Origin: Animal/Plant
Processing:
GMO Free
No Ethoxylation
No Irradiation
No Sulphonation
Additives:
Preservatives: None
Antioxidants: None
Other additives: None
Solvents Used: Water
Appearance: Clear to Slightly Hazy Liquid
Soluble/ Miscible: Water Soluble
100% Biodegradability
Microbial Count: <100 opg, No Pathogens

Suggested Use Levels: 1.0 - 10.0%
Suggested Applications:
Moisturizing, Conditioning, Mild Foaming

BACKGROUND

Cleansers are designed to remove oil, dirt, sweat and sebum from skin through the action of surfactants. Surfactants are substances capable of dissolving oils and holding dirt in suspension so it can be easily rinsed away with water. As several surfactants available on the market are synthetic, many consumers are seeking natural alternative options.[1] **AC Foaming Collagen PF** is produced through the combination of protein and coconut fatty acids and has been designed as a natural alternative to synthetic surfactants.

Proteins are common ingredients in skin and hair care products and collagen is the most abundant protein in the human body. Functionally proteins form films that seal in moisture, economically they are an inexpensive alternative to most synthetic chemicals. There are a wide variety of proteins available to cosmetic chemists because proteins are integral components in all organisms. Capitalizing on the outstanding consumer recognition of collagen, **AC Foaming Collagen PF** consists of bovine derived collagen that offers both excellent hydrating properties and film-forming benefits.

SCIENCE

Collagen is often hydrolyzed into lower molecular weight fractions to increase its solubility. Adding fatty acid condensate moieties, which enhance foaming qualities, further modifies the protein. Often consumers associate a product's cleansing ability with its foaming capability. AC Foaming Collagen PF is a hydrolyzed collagen protein with potassium cocoyl moieties. These potassium cocoyl moieties are coconut-derived fatty acids that enhance the foaming qualities of the protein. These protein-fatty acid condensates that are used in mild shower, bath and shampoo products as well as surfactant-based facial cleansers, and baby products.

Benefits of **AC Foaming Collagen PF**:

- Conditioning
- Gentle Cleansing
- Skin and Hair Care Applications

AC Foaming Collagen PF

Protein/fatty acid condensates have an anionic net charge similar to that of skin and hair so it rinses easily from hair and skin without leaving a sticky irritating film behind. The complex has a hydrophobic fatty acid tail and a hydrophilic protein backbone. The hydrophobic region binds to lipophilic material and forms a micelle that encapsulates lipophilic species. The micelles have a hydrophobic interior and a hydrophilic exterior, which promote easy rinsing with water. Protein hydrolysate improves surfactant skin compatibility while the fatty acid moiety increases foaming properties. The complex also forms a protective layer on the skin through a reaction between the collagen in skin and the protein/fatty acid condensate. This protective layer reduces the irritation caused by other surfactants, and improves the degreasing characteristics of the product.[2]

BENEFITS

AC Foaming Collagen PF is a product designed for use in mild cleansing products to provide moisturizing and conditioning benefits to the skin and hair. In hair care applications, **AC Foaming Collagen PF** enhances smoothing, wet and dry combability, anti-frizz, overall feel, shine and hydration. Due to the protein/acid moieties associated with the structure, **AC Foaming Collagen PF** can be added to mild detergent products such as body gels, shampoos, body washes and facial cleansers. **AC Foaming Collagen PF** creates mild foaming and can be used as a natural surfactant, making it perfect for sensitive skin and scalp care applications as well as baby products.

EFFICACY DATA

A half-head study was conducted to determine the comparison of a control shampoo vs. 2.0% **AC Foaming Collagen PF** in the control shampoo. Additionally, a comparison between the control conditioner and 2.0% **AC Foaming Collagen PF** in the control conditioner were reported. Each volunteer's hair was photographed prior to the treatment and again after the shampoo and conditioner had been applied and the hair was styled. The images of the half-head study were used in conjunction with a sensory assessment subjectively rating the parameters - cleansing, smoothing, dry and wet combability, anti-frizz, overall feel, shine and hydration. This assessment was conducted both before and after treatment. Based on the results obtained, **AC Foaming Collagen PF** is capable of enhancing smoothness, wet and dry combability, anti-frizz, overall feel, shine and hydration when used in a conditioner. These attributes makes it an ideal ingredient for use in products intended for thick, unruly or ethnic hair types.

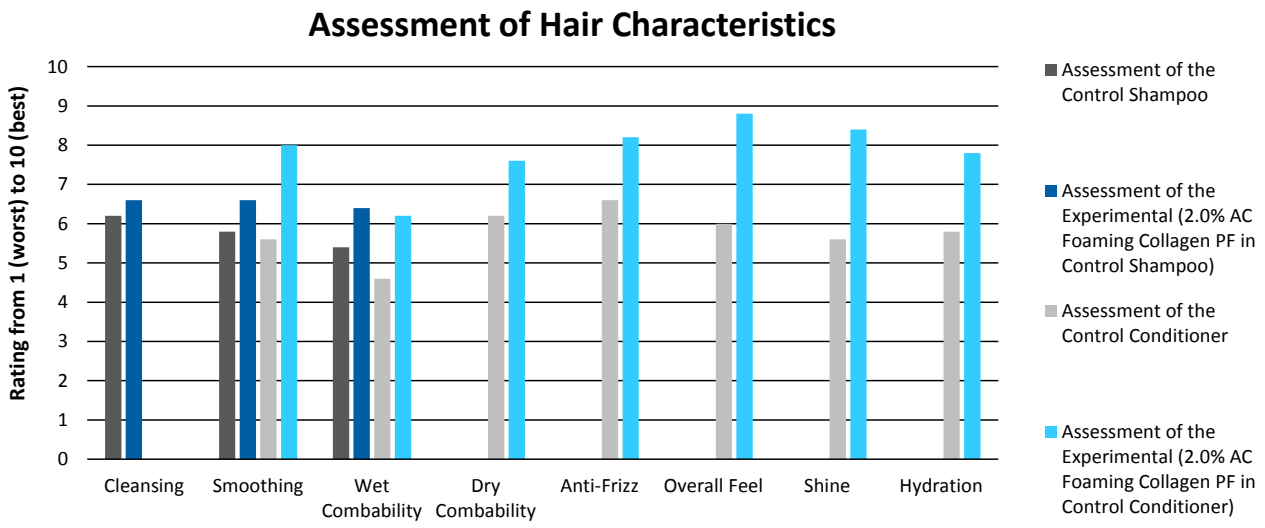


Figure 1. Rating of hair characteristics following sensory assessment

AC Foaming Collagen PF

When incorporated into a shampoo, 2.0% **AC Foaming Collagen PF** did show improvement in the parameters tested. However, when used in a conditioner **AC Foaming Collagen PF** is capable of improving smoothing, wet and dry combability, anti-frizz, overall feel, shine and hydration more than the control conditioner. These results can be further supported by Figures 2 through 5, where clearly the half of the subject's head treated with 2.0% **AC Foaming Collagen PF** appears sleek, smooth, less frizzy, and hydrated. Additionally, the subjects reported a significant increase in smoothness, shine and overall feel of the hair.

Figure 2. Full head Baseline, Untreated Hair

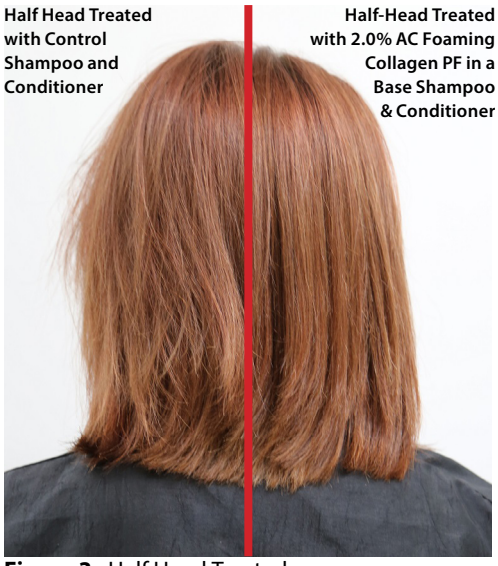


Figure 3. Half Head Treated

Figure 4. Full head Baseline, Untreated Hair

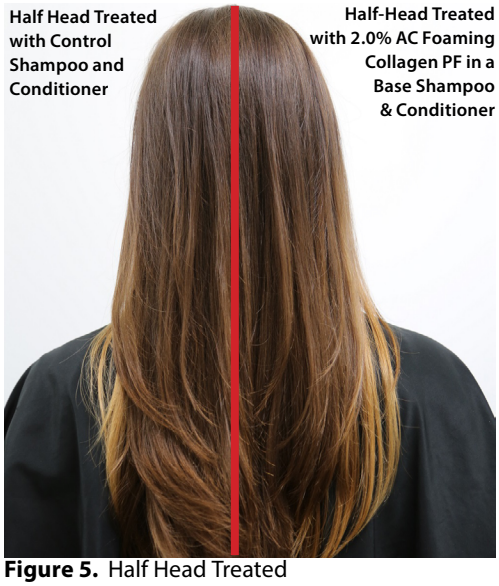


Figure 5. Half Head Treated

It is clear from the images in the study that **AC Foaming Collagen PF** helps create a smooth, sleek hairstyle. Additionally, in all images, the hair is noticeably shinier, less frizzy and has a more hydrated appearance.

AC Foaming Collagen PF

The professional stylist who performed the actual tests by applying the product, styling the hair, and documenting the images said **AC Foaming Collagen PF** is great for smoothing frizzy, unruly hair. This product can provide gentle cleansing while enhancing the shine and overall feel of styled hair. The product is lightweight and would be perfect for applications targeting fine hair. **AC Foaming Collagen PF** is good for use in a leave on application or shampoo and conditioner for perceivable benefits.

Comparison of Control Conditioner vs. Experimental

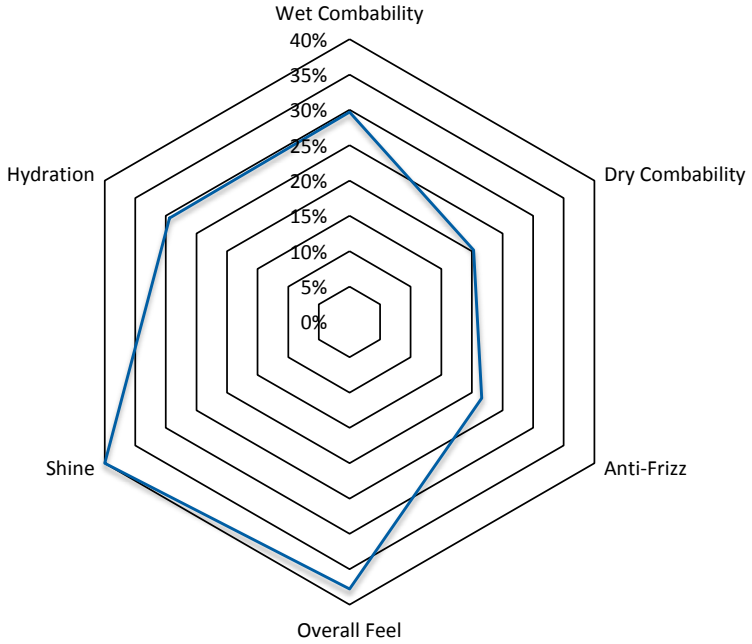


Figure 6. Hair Assessment results for sensory characteristics

References

1) Holmberg, K. 2001. Current Opinion in Colloid & Interface Science. Natural surfactants. 6 (2):148-59.
2) Ananthapadmanabha, K.P. 2004. Cleansing without compromise: the impact of cleansers on the skin barrier and the technology of mild cleansing. Dermatologic Therapy. 17 (1):16-25.

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