

ACB Rice Water SF



Ayurvedic technology
 increases hair hydration nourishing
 gluten-free Plant Based
 humidity protection
 Vegan conditioning

BACKGROUND

The practice of rinsing cereal grains before cooking has captured the attention of consumers as the next hair care craze. One of the first lessons of cooking rice (*Oryza sativa*), is to rinse the grains thoroughly to remove excess starch. Rather than discarding the cloudy rice water left after rinsing, it can be collected and used for washing the hair. For centuries, women have used this rice water, the original upcycled hair care regime, to promote healthy hair. Today, Active Concepts offers **ACB Rice Water SF** for demonstrated hair hydration and humidity protection.

Rice is a cereal grain derived from wild grasses. Said to be the “grain of life”, rice is a staple food in India, often used in different forms, such as steaming, frying, fermenting, and more. Today, rice production represents much of the world’s cereal production and sustains a multitude of communities daily as a means of nourishment. Humans have depended on rice as a dietary and medicinal staple for thousands of years.

In India, Ayurveda is one of the oldest practices of medicine with emphasis on health and wellness. In regards to Ayurveda, traditionally, there are three Upasthambhas, or sub-pillars of life. One of these pillars, Ahara, or food, is responsible for the physical, temperamental, and mental states of an individual, as these body elements are fueled by the nourishment received from food. According to Ayurveda, rice has been shown to have both nutritional and medicinal properties, contributing to a healthy diet and Mahabhaishajya, known as the great medicine.

Cosmetically speaking, anyone can rinse their rice and collect the popular rice water byproduct at home. However, rice is one of the principal substrates for fermented foods and beverages in India, as fermented rice is the base of many traditional Indian food dishes and drinks. Active Concepts has taken the extra step of utilizing the oldest known biotechnological process of fermentation to bring forth the many cosmetic benefits fermented rice has to offer.

Code Number: 16932

INCI Name: Oryza Sativa (Rice) Seed Water & Saccharomyces Ferment & Lactobacillus Ferment

INCI Status: Conforms

REACH Status: Compliant

CAS Number: 68553-81-1 & 8013-01-2 & 68333-16-4 (or) 1686112-36-6

EINECS Number: 271-397-8 & 232-387-9 & N/A (or) N/A

Origin: Biotechnology/Botanical

Processing:

- GMO Free
- No Ethoxylation
- No Irradiation
- No Sulphonation

Additives:

- Natural Antimicrobial: Lactobacillus Ferment
- Preservatives: None
- Antioxidants: None
- Other additives: None

Solvents Used: Water

Appearance: Colorless to Yellow, Hazy Liquid

Soluble/ Miscible: Water Soluble

Microbial Count:

<100CFU/g, No Pathogens

Suggested Use Levels: 1.0 – 10.0%

Suggested Applications:

- Conditioning, Hydrating, Vegan, Humidity Protection

Benefits of ACB Rice Water SF:

- Increases Hair Hydration
- Humidity Protection
- Ayurvedic Technology



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The use of fermented rice derivatives in cosmetics allows for the extraction of biomass on a cellular level to incorporate natural, active ingredients with product driving consumer recognition. Rice is rich in starch, amino acids, vitamins, and minerals, making it an excellent addition to any hair care routine. In the case of rice water, many of the nutrients are transferred from the rice to the water. Rather than discarding rice water after rinsing one's grains, it may sustainably serve a second purpose of bringing forth scalp benefits, hair strengthening, and hair manageability.

SCIENCE

Ancient Indian civilization pioneered the use of fermentation for medicine and the fortification of resources. In India, the fermentation of rice has resulted in a plethora of diversified food and drinks of various tastes and textures. These practices are linked to rural woman following traditional village art techniques, linking today's modern, fermented rice foods and drinks to Indian heritage.

In cosmetics, the use of fermentation is useful for isolating or creating bioactive minerals that our bodies can easily recognize and therefore process more efficiently. **ACB Rice Water SF** is created by upcycling the rice water byproduct from the production of our Organic Rice Solution, followed by fermentation with *Saccharomyces cerevisiae*. The material is then filtered to isolate the nutrient rich rice water. Historically, fermented rice water has been shown to contain starch, Vitamin E, Vitamin B, essential amino acids, and organic acids.

Rice starch is rich in polysaccharides and the carbohydrate inositol, which has been shown to repair and protect damaged hair. Vitamin E, also known as tocopherol, is a potent antioxidant necessary for reducing oxidative stressors, such as harmful UV and pollution, by reducing and neutralizing free radicals that impart ageing effects on the hair. Vitamin B has a role in protein metabolism, which supports healthy hair growth. Similarly, amino acids help the hair lock in moisture to ultimately encourage hair growth, fiber structure reconstruction, and reduce breakage. Amino acids have also been shown to improve combability and impart luster. Various organic acids are known for their ability to repair the surface of hair fibers.

BENEFITS

Rice water has captured the attention of consumers as the next hair care active highlighting the popularity of DIY treatments at home and the importance of eco-conscious beauty where nothing is wasted. Intended to coat the hair in starch for repair and strengthening, rice water is also rich in vitamins and amino acids, however, can realistically be fashioned by anyone at home. Active Concepts has taken this trend one step further by fermenting the rice water to enhance its benefits of intense hydration and humidity protection. Fermented rice water allows vitamins and amino acids to be more bio-available and easily recognized by the hair, making **ACB Rice Water SF** a superior choice for capitalizing on the benefits of rice water in hair care formulations.

EFFICACY

A gravimetric analysis was performed in order to assess the hydrating ability of **ACB Rice Water SF** on both virgin hair and bleached hair. For each assessment, four hair swatches were weighed, and then treated with either 5.0% **ACB Rice Water SF**, water, unfermented rice water, or nothing (untreated control). A fifth hair swatch was used as a comparative control with no treatment and no humidity exposure. After treatment, hair swatches were weighed another time, then placed into a constant temperature-drying oven for 1 hour at 105°C. When removed from the oven, the hair was allowed time to cool in a humidity-controlled chamber and weighed one last time. Hair hydration was determined by calculating the percent moisture per hair swatch.

Percent difference results indicate that **ACB Rice Water SF** is capable of maintaining and enhancing hydration on both virgin hair and bleached hair when compared to the untreated, unfermented rice water, and water control. Overall, **ACB Rice Water SF** is a suitable addition to finished formulas intended to promote hair hydration.

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Hair Hydration via Gravimetric Analysis - Virgin Hair

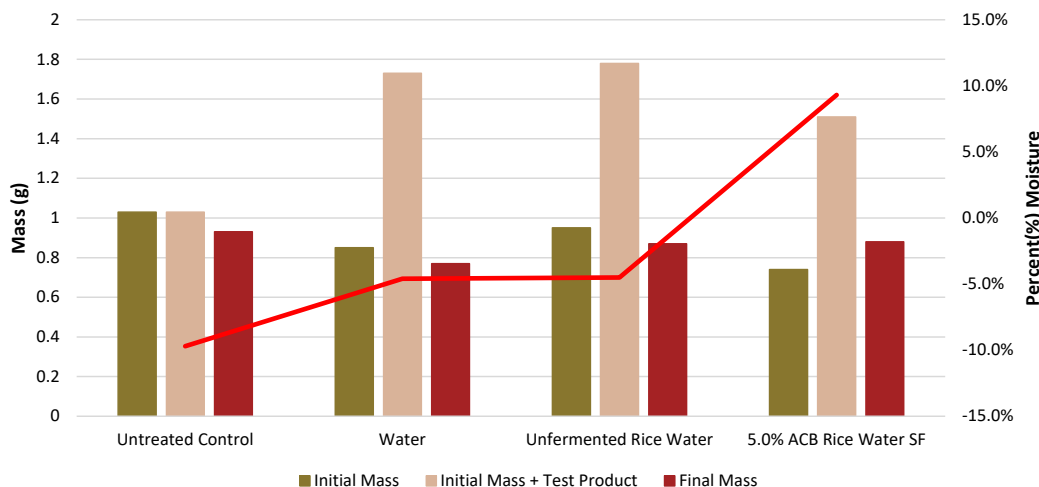


Figure 1. Assessment of hair hydration via gravimetric analysis on virgin hair.

Hair Hydration via Gravimetric Analysis - Bleached Hair

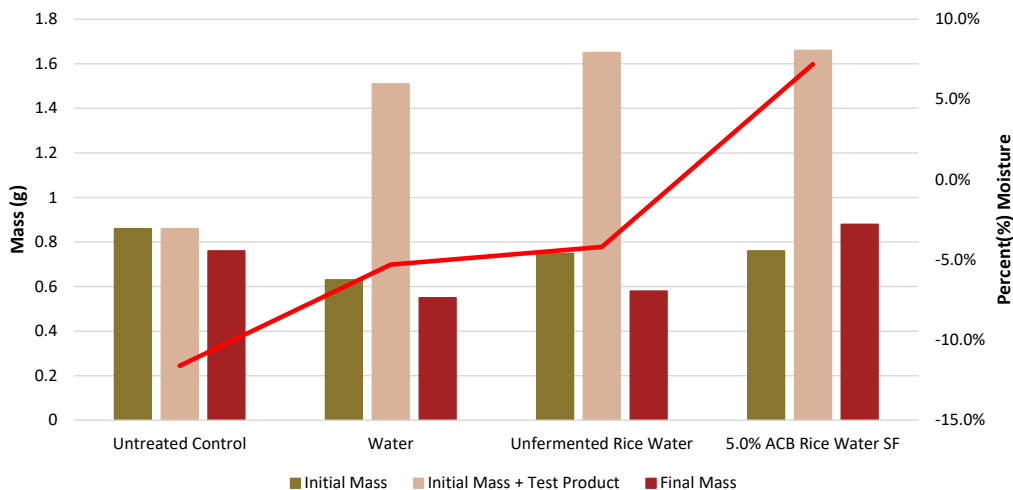


Figure 2. Assessment of hair hydration via gravimetric analysis on bleached hair.

A humidity protection analysis was performed in order to qualitatively assess the humidity protection capabilities of **ACB Rice Water SF** on the hair.

Four bleached and four virgin hair swatches were collected and treated with either 5.0% **ACB Rice Water SF** in DI water, unfermented rice water, DI water alone, or nothing (humidity control). A fifth hair swatch was used as a comparative control with no treatment and no humidity exposure. Each test swatch was evenly soaked in its designated treatment and blown dry for one minute. Initial images were taken post-treatment and drying. The hair swatches were then fastened to the lid of the humidity chamber allowing for a natural hanging position and space in between each swatch. A 2000 ml beaker of boiling water was placed into the chamber and the lid secured allowing for a closed controlled environment. The temperature and humidity was monitored for the duration of the exposure. Final images were taken at the 30 minute time mark.

The results of this study indicate that **ACB Rice Water SF** is capable of protecting the hair from the deleterious effects of high humidity environments. The material helps smooth the hair better than the H2O controls after an equivalent exposure to high humidity. Overall, the **ACB Rice Water SF** is a suitable anti-frizz or anti-humidity protector for both chemical treated and virgin hair samples.

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Figure 3. Pre-humidity Exposure and Post 30-minutes Humidity Exposure of Treated Bleached Hair Swatches.



Figure 4. Pre-humidity Exposure and Post 30-minutes Humidity Exposure of Control Bleached Hair Swatches.

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Figure 5. Pre-humidity Exposure and Post 30-minutes Humidity Exposure of Treated Virgin Hair Swatches.



Figure 6. Pre-humidity Exposure and Post 30-minutes Humidity Exposure of Control Virgin Hair Swatches.

References:

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