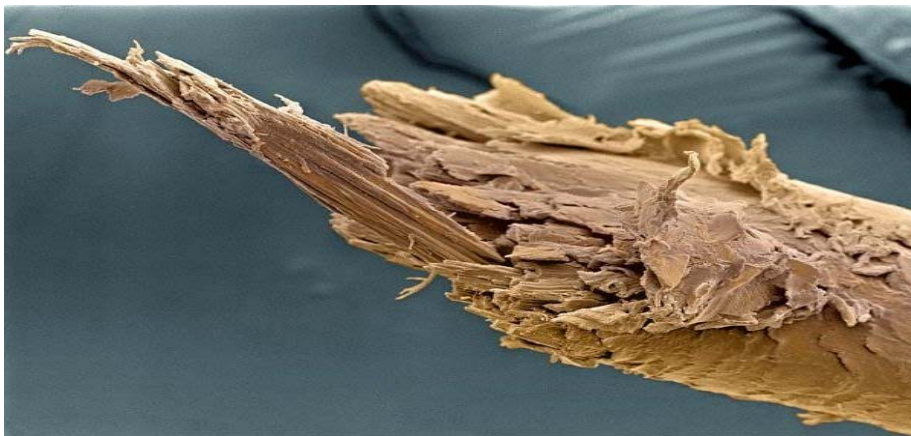


Salon Half-Head Hair Study



Prevent Damage

Strengthen & Reduce Split Ends

rice extract Biopolymer
 Youthful looking Hair Anti-Aging
 Smoothing Reduce Frizz

ABSTRACT

The condition of the cuticle (the outer most layer of the hair) significantly affects both the manageability and sleekness of our hair. Overtime, hair can become damaged, which can result in the cuticle lifting because of both environmental and styling influences and processes. The result: lifeless, dull hair that is difficult to manage. Improving the sleekness of hair has been shown to instantly create a healthier more youthful appearance. Increasing combability not only eases manageability, but also helps to minimize physical damage that perpetuates the loss of body and difficulty in styling.

AC Split End Complex MSX is a product designed to provide repair and strengthening benefits, coat the hair to protect against environmental stressors and seal the cuticle to enhance shine and the overall finished look of hairstyles. However, this unique ingredient also enhances smoothing, wet combability, anti-frizz overall feel, shine and hydration. The purpose of this study was to confirm whether **AC Split End Complex MSX** is capable of providing benefits when included in a shampoo and conditioner on ethnic hair types.

A half head study was conducted to determine the comparison of a control shampoo vs. 2.0% **AC Split End Complex MSX** in the control shampoo. Additionally, a comparison between the control conditioner and 2.0% **AC Split End Complex MSX** 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 Split End Complex MSX** is capable of enhancing the smoothing, wet combability, anti-frizz, overall feel, shine and hydration making it an ideal ingredient for use in products intended for thick, unruly or ethnic hair types.

Code Number: 20375MSX

INCI Name: Hydroxypropyltrimonium Hydrolyzed Rice Protein/Siloxysilicate & Oryza Sativa (Rice) Extract

INCI Status: Conforms

REACH Status: Complies

CAS Number: 56275-01-5 & 68553-81-1

EINCS Number: N/A & 271-397-8

TRF#: S54

Lot Number(s):

#NC160119-B

Suggested Use Levels: 1.0 - 5.0%

Use Level for Assay: 2.0%

Sponsor:

Active Concepts, LLC
 107 Technology Drive
 Lincolnton, North Carolina 28092

Study Director: Erica Segura

Principle Investigator: Maureen Danaher

Suggested Applications: Hair Repair, Hair Strengtheners

Benefits of AC Split End Complex MSX:

- Conditioning
- Improves the Appearance of the Hair
- Repair & Strengthen

Salon Half-Head Hair Study

MATERIALS AND METHODS

The study was conducted using five participants. Each subject had their baseline photo taken prior to having their hair washed. The participant was also asked to complete a survey rating their hair prior to treatment on a scale of 1 to 10, with 1 being the lowest and 10 being the highest, using the following parameters cleansing, smoothing, dry and wet combability, anti-frizz, overall feel, shine and hydration.

Half of the head was treated with the control shampoo and conditioner while the other half of the head was treated with 2.0% **AC Split End Complex MSX** in the base shampoo and base conditioner. After the application and rinse of the test and positive control products, each participant's hair was blown dry using a round brush on both sides of the head. Once the hair was completely dry, the participant was asked to again assess the same parameters of both halves of their hair. Assessments were made using a rubric from 1 to 10, with 1 being the lowest and 10 the highest.

RESULTS

Parameters Tested	Assessment of the Control Shampoo	Assessment of the Experimental (2.0% AC Split End Complex MSX in Control Shampoo)	Assessment of the Control Conditioner	Assessment of the Experimental (2.0% AC Split End Complex MSX in Control Conditioner)
Cleansing	6.00	6.00	X	X
Smoothing	6.00	6.00	5.00	6.00
Wet Combability	4.00	6.00	6.00	7.00
Dry Combability	X	X	7.00	7.00
Anti-Frizz	X	X	6.00	8.00
Overall Feel	X	X	6.00	8.00
Shine	X	X	6.00	8.00
Hydration	X	X	7.00	8.00
Mean	5.00	6.00	6.14	7.42

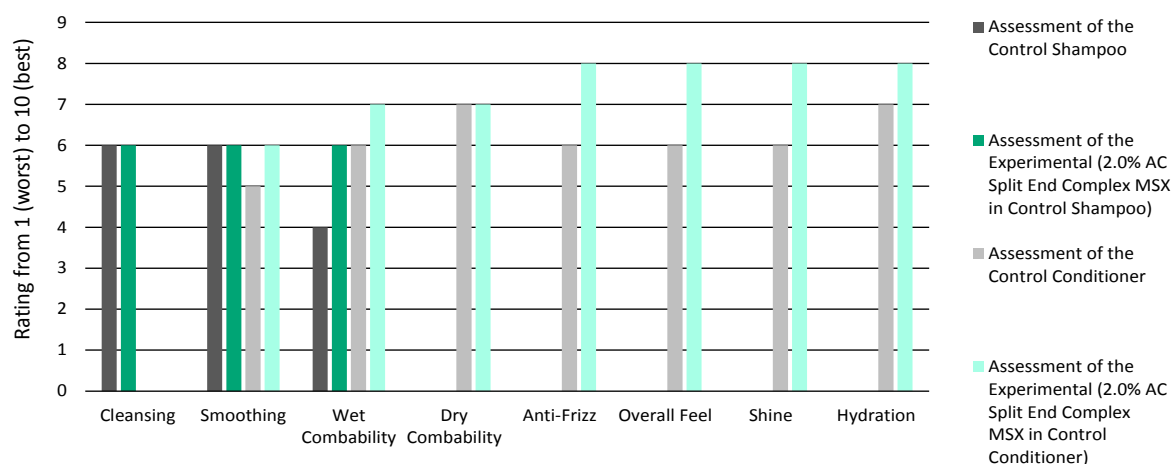
Chart 1. Average Results for Participant's Sensory Assessment

Parameters Tested	Percent Difference – Comparison of Control Shampoo vs. Experimental (2.0% AC Split End Complex MSX in Control Shampoo)	Percent Difference – Comparison of Control Conditioner vs. Experimental (2.0% AC Split End Complex MSX) in Control Conditioner)
Cleansing	0%	X
Smoothing	0%	18%
Wet Combability	40%	15%
Dry Combability	X	0%
Anti-Frizz	X	29%
Overall Feel	X	29%
Shine	X	29%
Hydration	X	13%
Mean	40%	19%

Chart 2. Percent Difference of Participant's Sensory Assessment

Salon Half-Head Hair Study

Assessment of Hair Characteristics



Graph 1. Rating of hair characteristics following sensory assessment

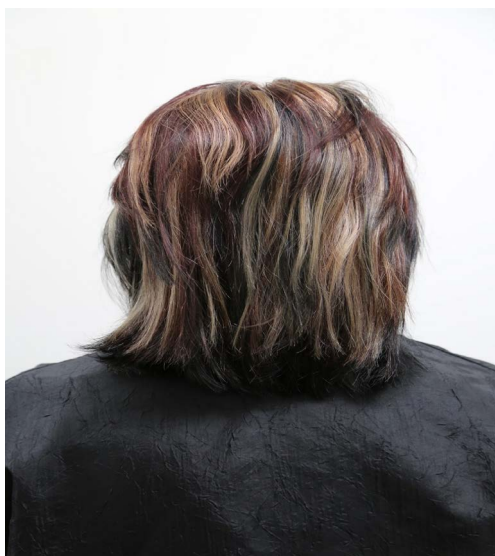


Figure 1. Full head Baseline, Untreated Hair

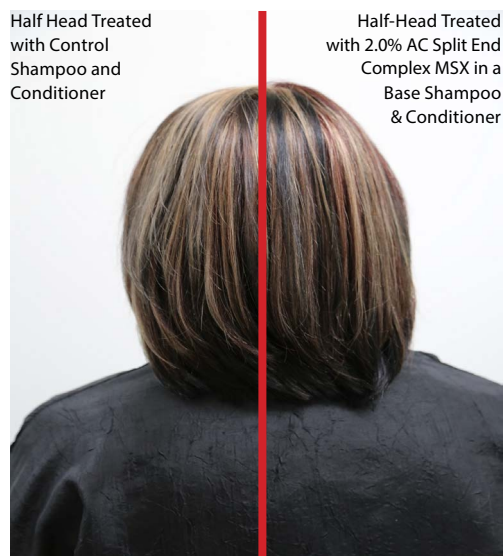


Figure 2. Half Head Treated



Figure 3. Full head Baseline, Untreated Hair



Figure 4. Half Head Treated

Salon Half-Head Hair Study



Figure 5. Full head Baseline, Untreated Hair



Figure 6. Half Head Treated



Figure 7. Full head Baseline, Untreated Hair



Figure 8. Half Head Treated



Figure 9. Full head Baseline, Untreated Hair

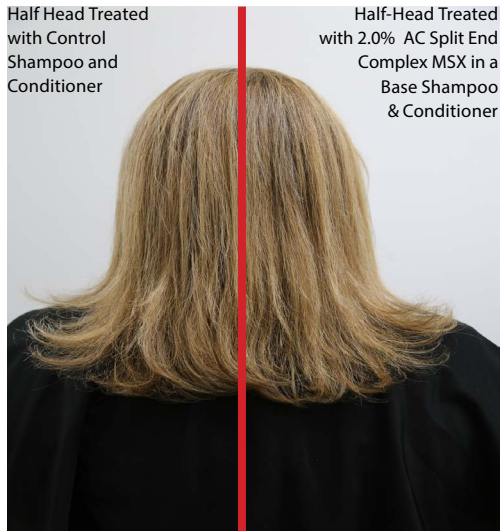


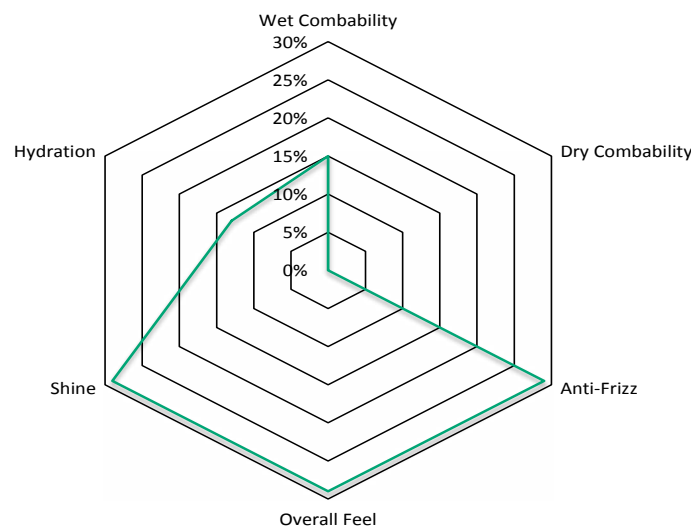
Figure 10. Half Head Treated

Salon Half-Head Hair Study

When comparing hair characteristics of the baseline assessments to the post style assessments, the benefits of including 2.0% **AC Split End Complex MSX** in a shampoo and conditioner are even more apparent. In relation to the baseline readings, the test-half of the head improved the intended subjective parameters, improving smoothing, wet combability, anti-frizz, overall feel, shine and hydration by 18%, 15%, 29%, 29%, 29% and 13% respectively. It is clear from the images in this study that **AC Split End Complex MSX** helps create a smooth, sleek hairstyle. Additionally, in all images, the hair is noticeably shinier, with less frizz and has a more hydrated appearance.

The professional stylist who performed the actual tests by applying the product, styling the hair and documenting the images said **AC Split End Complex MSX** is great for smoothing damaged or frizzy, unruly hair. This product enhances the shine and overall feel of styled hair. Works great when heat is applied - it is recommended to use a flat iron/curling iron immediately after blow drying hair to seal the ends. **AC Split End Complex MSX** is good to use in a leave on application or shampoo and conditioner for perceivable benefits.

Comparison of Control Conditioner vs. Experimental



Graph 2. Hair Assessment results for sensory characteristics

DISCUSSION

The results of the assessment indicate that when incorporated into a shampoo, 2.0% **AC Split End Complex MSX** did show improvement in wet combability. However, when used in a conditioner **AC Split End Complex MSX** is capable of improving wet combability, anti-frizz, overall feel, shine and hydration more than the control conditioner. These results can be further supported by figures 1 through 10, where clearly the half of the subject's head treated with 2.0% **AC Split End Complex MSX** appears shiny, smooth and less frizzy. Additionally, the subjects reported a significant increase in smoothness and overall feel of the hair, especially when heat was applied for styling.