A Natural Silicone Alternative: Floramac® 10

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SKIN CARE BENEFITS:

Each silicone / silicone replacement pair (as listed in Table 1), was compared by consumers (n=27) in a blinded fashion on a 1-5 scale for initial product evaluations and skin feel (30 minutes post-application) observations. The higher the score, the more the listed attribute was perceived by consumers (evaluations and skin feel (30 minutes post-application) observations). The results for each pair appear below in Figures 1-3. 

**Figure 1.** Initially, there were few perceivable differences; however 30 minutes post-application, Floramac 10 left the skin perceivably more glossy, silky / smooth, and moisturized.

**Figure 2.** Initially, Dimethicone (20cs) was visually more glossy, more transparent, and thinner (texture). Thirty minutes post-application, the gelled Floramac 10+ left the skin perceivably more glossy, silky / smooth, and moisturized.

**Figure 3.** Initially, Phenyl Trimethicone was visually more glossy, more transparent, wetter, more absorbent, and thinner (texture); however, there were few perceivable differences between the Floramac 10+ and Phenyl Trimethicone 30 minutes post-application to the skin.

REFERENCES:

1. p<0.05 (**) and p<0.10 (*) where indicated.
2. Gelled with 0.5% Silica (Cabot).
3. Gelled with 5.0% Glyceryl Tribehenate/Isostearate/Eicosadioate (Nisshin Oillio); 2.0% Aluminum Starch Octenylsuccinate (and) Acrylates Copolymer (and) Magnesium Carbonate (AkzoNobel Chemicals); and 5.0% Cetyl/Capric Triglyceride (and) Stearalkonium Hectorite (and) Propylene Carbonate (Elementis Specialties).
4. Skin radiance (i.e. gloss) and hydration measurements were captured using the Glossometer GL 200 and Corneometer CM 825, respectively; both instruments are products of Courage+Khazaka (Köln, Germany).
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SKIN CARE BENEFITS:

HAIR CARE BENEFITS:

Decreased Comb Force

Heat Protection

Leave-in hair serums containing either Floramac 10, Cyclopentasiloxane, or Phenyl Trimethicone were applied to wet, double-bleached, naturally curly hair tresses. Wet and dry comb force measurements were taken at baseline and post-treatment. The results appear below in Figure 5.

Figure 5. Comb Force Reduction

![Graph showing comb force reduction with Floramac 10, Cyclopentasiloxane, and Phenyl Trimethicone.]

Floramac 10 reduced wet comb force up to 45% more than the leave-in hair serums with silicones (p<0.05 compared to Phenyl Trimethicone); and reduced dry comb force up to 2.6 times as much as the leave-in hair serums with silicones (p<0.05 compared to both silicones).

Increase Hair Shine

Naturally straight, brown hair tresses were treated with leave-in hair serums containing Floramac 10, Cyclopentasiloxane, or Phenyl Trimethicone. Hair gloss measurements were taken before and after hair serum treatment, with heat (i.e. flat iron) and without heat. The results appear below in Figure 6.

Figure 6. Hair Shine

![Graph showing hair shine with Floramac 10, Cyclopentasiloxane, and Phenyl Trimethicone.]

Floramac 10 increased hair shine up to 2 times more than silicones without the use of heat (p<0.05 compared to Cyclopentasiloxane) and up to 1.7 times more than silicones with the use of heat (p<0.05 compared to both silicones).

Decreased Breakage

Leave-in hair serums containing either Floramac 10, Cyclopentasiloxane, or Phenyl Trimethicone were applied to wet, double-bleached, naturally curly hair tresses, which were then blow dried and combed 1000 times. The broken fibers were collected and counted. The results appear below in Figure 7.

Figure 7. Hair Breakage

![Graph showing number of broken hair fibers with Floramac 10, Cyclopentasiloxane, and Phenyl Trimethicone.]

The leave-in hair serum containing Floramac 10 reduced the number of broken hair fibers up to 39% better than the leave-in hair serum containing Cyclopentasiloxane, and up to 57% better than the leave-in hair serum containing Phenyl Trimethicone (p<0.05).

Figure 8. Heat Protection

The leave-in hair serum containing Floramac 10 performed similarly to the silicones, Cyclopentasiloxane and Phenyl Trimethicone, and 76% better than untreated hair (p<0.05).

Improved Consumer Preference

Leave-in hair serums containing either Floramac 10 or Phenyl Trimethicone were compared by consumers (n=24) in a half head, randomized, double-blind fashion after one week of every other day product use. The results appear below in Figure 9.

Figure 9. Consumer Preference

At least 80% of consumers preferred the leave-in hair serum with Floramac 10 for smoothness, shine, softness, and ease of combing compared to the leave-in hair serum with Phenyl Trimethicone.

CONCLUSIONS

• Floramac 10 is a viable natural silicone alternative for both skin care and hair care applications.
• Floramac 10 provides skin hydration and radiance.
• Floramac 10 conditions and protects hair.
• Floramac 10 increases hair shine.
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