



Consumer Solutions

## Protective Solutions for Today's Hair Care Market

### Featured Products

#### Color Protection

**DOWSIL™ 5-7113 Silicone Quat Microemulsion**

INCI: Silicone Quaternium-16 (and) Undeceth-11 (and) Butyloctanol (and) Undeceth-5

**DOWSIL™ 8500 Conditioning Agent**

INCI: Bis(C13-15 Alkoxy) PG-Amodimethicone

#### Heat Protection

**DOWSIL™ AP-8087 Fluid**

INCI: Bis-Hydroxy/Methoxy Amodimethicone (and) Cyclotetrasiloxane

**DOWSIL™ 969 Emulsion**

INCI: Amodimethicone (and) Cetrimonium Chloride (and) Trideceth-3 (and) Trideceth-15

#### Color and Heat Protection

**DOWSIL™ CE-8411 Smooth Plus Emulsion**

INCI: Bis-Diisopropanolamino-PG-Propyl Dimethicone/Bis-Isobutyl PEG-14 Copolymer (and) Polysorbate 20 (and) Butyloctanol (and) Aqua



## Adding Value to Life

In today's fast-paced and competitive personal care market, consumers are sophisticated and demanding when it comes to hair care. They value strong, full-bodied, shiny hair as a sign of beauty and good health, and depend on evolving, high-performance technology to improve hair vitality and appearance.

To meet these demands, the hair care industry must develop increasingly creative solutions that go above the ordinary. Dow silicone solutions can help you create hair care products that protect hair from

color loss, heat associated with daily routine, and even the effects of combing and styling.

### Color Protection

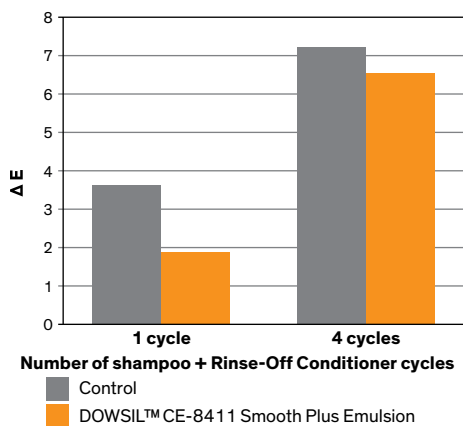
With Dow silicone solutions, you can further differentiate your hair care products by providing color protection benefits and shine for consumers who want beautiful, intensely colored hair. Testing shows that silicones from Dow can help maintain color depth, prevent yellowing, and guard against loss of redness.

#### Products that Maintain Color

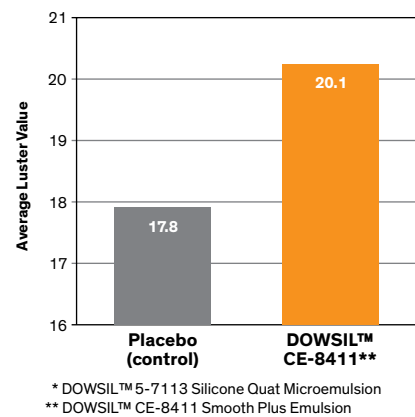
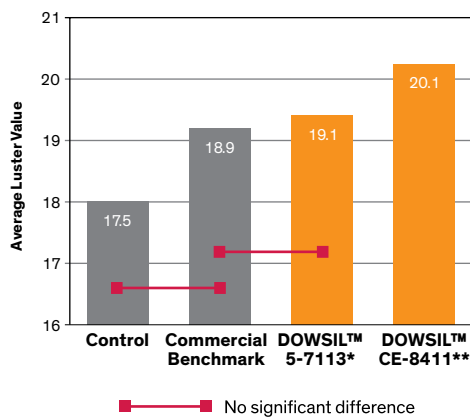
DOWSIL™ 8500 Conditioning Agent  
DOWSIL™ 2-8566 Amino Fluid  
DOWSIL™ AP-8087 Fluid  
DOWSIL™ CE-8170 AF Microemulsion  
DOWSIL™ 5-7113 Silicone Quat Microemulsion  
DOWSIL™ CE-8411 Smooth Plus Emulsion  
DOWSIL™ CE-7081 Smart Style

# Age-Defying Hair Repair through Shampoo and Rinse-Off Conditioner

**Figure 1**  
Protection: Longer Lasting Color



**Figure 2**  
Healthy Look: Shine/Luster



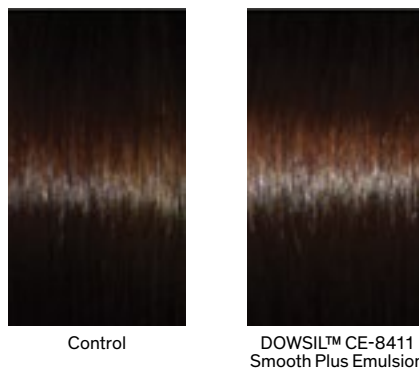
**Sensory Evaluation (Paired Comparison)**  
Which tress has more color?



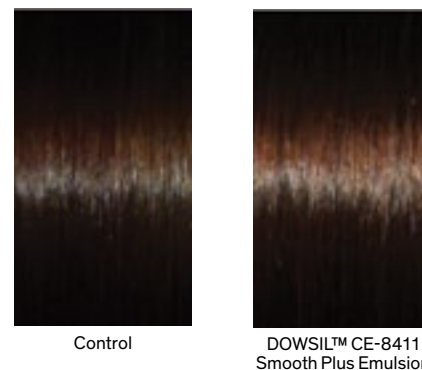
8411\* = 7113\*\* = 8500\*\*\* > Control  
8411\* = 7113\*\* = 8500\*\*\* > Commercial Benchmark  
\* DOWSIL™ CE-8411 Smooth Plus Emulsion  
\*\* DOWSIL™ 5-7113 Silicone Quat Microemulsion  
\*\*\* DOWSIL™ 8500 Conditioning Agent

Tested using colorimeter at 2% silicone active in shampoo and 2% active in rinse-off conditioner colored hair; significant difference at 99% confidence level

**1 Application**



**3 Applications**



Tested using Samba at 2% silicone active in shampoo and 2% active in rinse-off conditioner colored hair; significant difference at 99% confidence level

## Heat Protection

The use of heat-based styling appliances is very common, but the high temperatures that come with blow drying and curling or straightening with irons can damage hair. Consumers need products that can condition damaged hair and provide the thermal protection that gives hair a healthy look and feel. Silicone materials from Dow can help you create leave-in conditioners that protect against heat damage and prevent moisture loss.

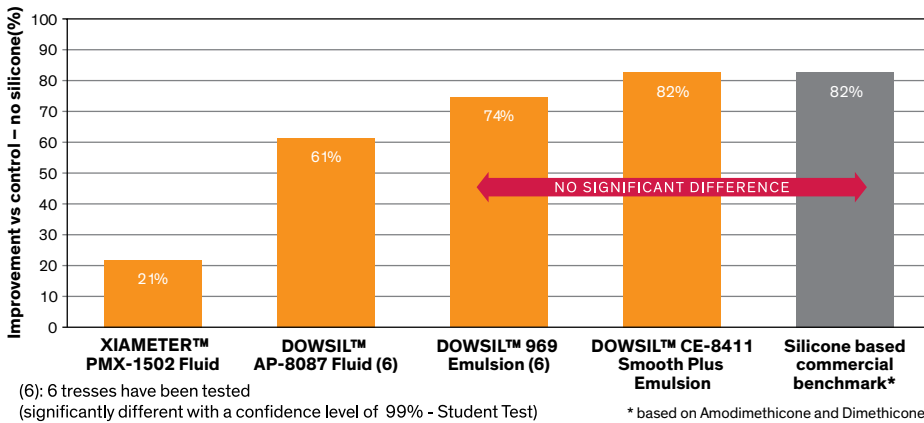
## Products that Protect from Heat

- DOWSIL™ AP-8087 Fluid
- DOWSIL™ 969 Emulsion
- DOWSIL™ CE-8411 Smooth Plus Emulsion

## Preserve Hair Resistance to Breakage

**Figure 3**

Heat Protection: Leave-In Conditioner (3% active) Slightly bleached Caucasian hair



**Test Method:**

Apply 100 µl / g hair of leave-in conditioner (3% active silicone) and dry tresses in oven at 70°C for 20 minutes. Hang dried tresses in the oven for 2 minutes at 230°C. Wet tresses, detangle and collect broken hair. Calculate % improvement (resistance to breakage) versus untreated hair.

**Figure 4**

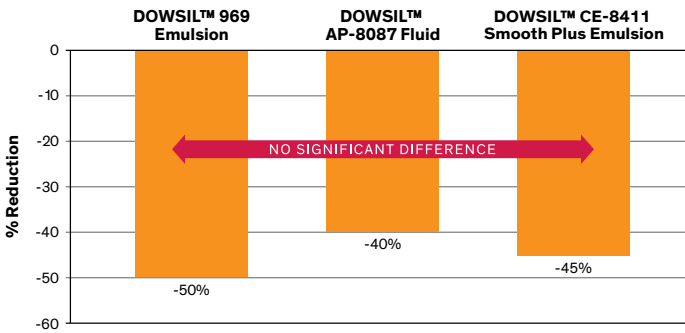
Fewer Broken Hairs with Silicone



## Facilitate Styling

**Figure 5**

Reduction of Straightening Iron Passes  
Reduction in number of passes versus untreated hair (%)

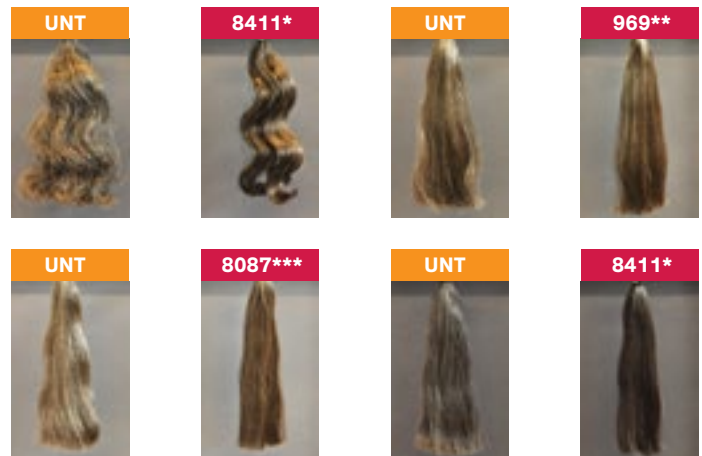


- Untreated tress, straightened 5x is ranked within a range of silicone treated tresses that are straightened 1-10 times
- Hair with poor manageability can be straightened when treated with DOWSIL™ AP-8087 Fluid, DOWSIL™ CE-8411 Smooth Plus Emulsion, and DOWSIL™ 969 Emulsion
- Hair treated with these silicones are up to 50% faster to straighten than untreated hair\*

\* significantly different to untreated with a confidence level of 99% - Student T test

**Figure 6**

Caucasian Frizzy Type B Virgin Hair  
10 passes of straightening iron; 3% active



\* DOWSIL™ CE-8411 Smooth Plus Emulsion  
\*\* DOWSIL™ 969 Emulsion  
\*\*\* DOWSIL™ AP-8087 Fluid

## Product Selection Guide for Hair Protection

Product	Key Benefits	Additional Benefits
<b>DOWSIL™ 5-7113 Silicone Quat Microemulsion</b>	Color protection	Volume, reduced hair breakage, shine, reduced drying time, reduced static
<b>DOWSIL™ 8500 Conditioning Agent</b>	Color protection	Reduced hair breakage, shine, volume, reduced static
<b>DOWSIL™ AP-8087 Fluid</b>	Heat protection	Shine, reduced static, ease of styling
<b>DOWSIL™ 969 Emulsion</b>	Heat protection	Ease of styling, long lasting styling, hair alignment
<b>DOWSIL™ CE-8411 Smooth Plus Emulsion</b>	Color protection Heat protection	Moisturized feel, reduced drying time, shine, reduced hair breakage, hair alignment, ease of styling

### How can we help you today?

When you need industry-leading innovation, Dow can help. DOWSIL™ solutions are dedicated to meeting your needs for specialty materials, collaborative problem solving and innovation support. Learn how we can help you bring BEAUTY WITH IMPACT to your products, at [consumer.dow.com/personalcare](https://consumer.dow.com/personalcare). Or contact your local Dow sales representative at [consumer.dow.com/contactus](https://consumer.dow.com/contactus).

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