

BEAUTY AND PERSONAL CARE

# 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

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

Adding  
*value*  
to life

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

Figure 1

Protection: Longer Lasting Color

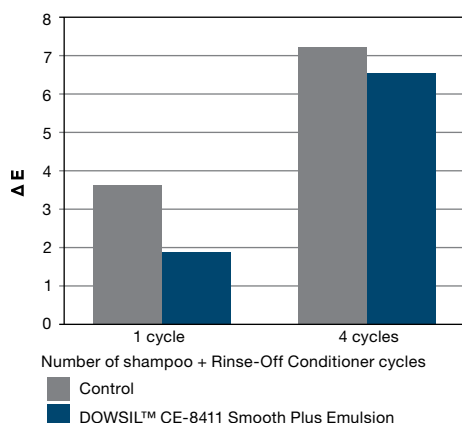
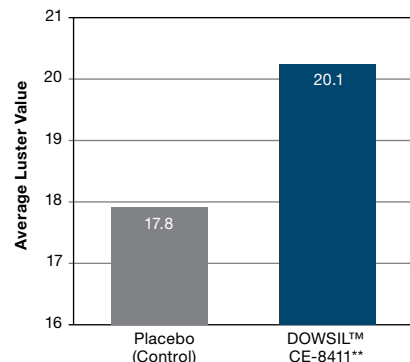
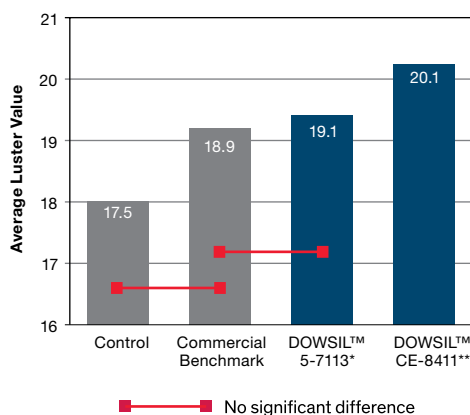


Figure 2

Healthy Look: Shine/Luster



\* DOWSIL™ 5-7113 Silicone Quat Microemulsion  
\*\* DOWSIL™ CE-8411 Smooth Plus Emulsion

## Sensory Evaluation (Paired Comparison)

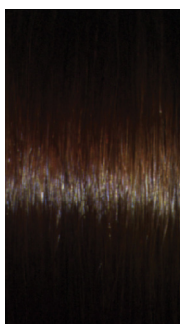
Which tress has more color?



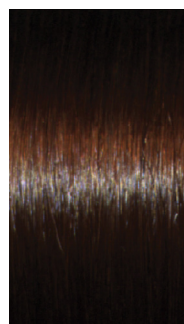
No Silicone



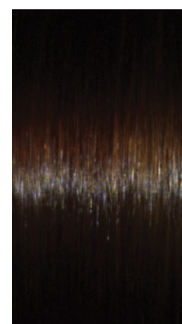
With Silicone



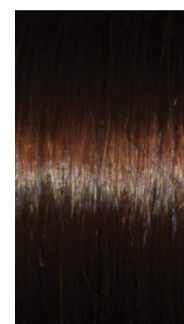
Control



DOWSIL™ CE-8411  
Smooth Plus Emulsion



Control



DOWSIL™ CE-8411  
Smooth Plus Emulsion

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.

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

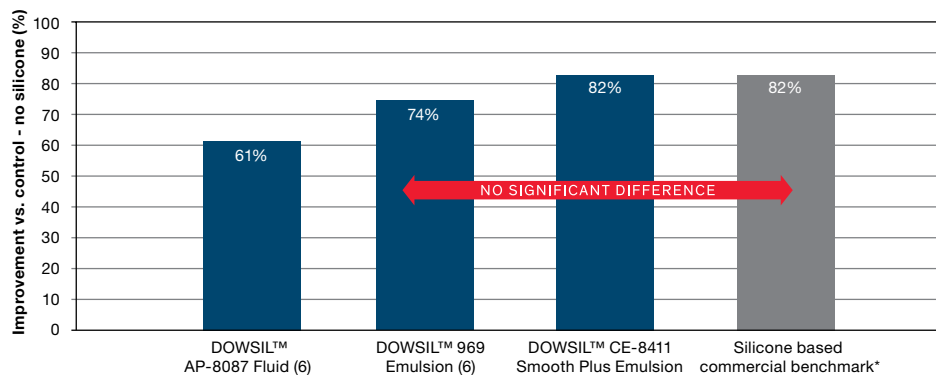
DOWSIL™ 969 Emulsion

DOWSIL™ CE-8411 Smooth Plus Emulsion

## Preserve Hair Resistance to Breakage

**Figure 3**

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



(6): 6 tresses have been tested

(significantly different with a confidence level of 99% - Student Test)

\*based on Amodimethicone and Dimethicone

### 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.

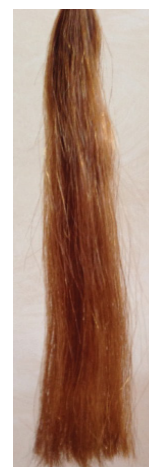
Hang dried tresses in the oven for 2 minutes at 230°C.

Wet tresses, detangle and collect broken hair.

Calculate % improvement (resistance to breakage) versus untreated hair.

**Figure 4**

Fewer Broken Hairs with Silicone



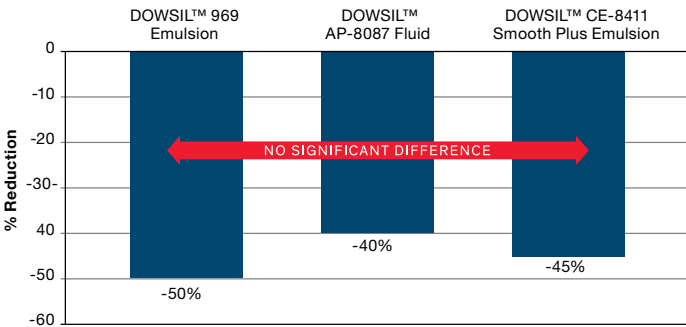
DOWSIL™ 969  
Emulsion  
Heat-damaged hair



Untreated  
Heat-damaged hair

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
DOWSIL™ 5-7113 Silicone Quat Microemulsion	Color protection	Volume, reduced hair breakage, shine, reduced drying time, reduced static
DOWSIL™ 8500 Conditioning Agent	Color protection	Reduced hair breakage, shine, volume, reduced static
DOWSIL™ AP-8087 Fluid	Heat protection	Shine, reduced static, ease of styling
DOWSIL™ 969 Emulsion	Heat protection	Ease of styling, long lasting styling, hair alignment
DOWSIL™ CE-8411 Smooth Plus Emulsion	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 [dow.com/personalcare](https://www.dow.com/personalcare). Or contact your local Dow sales representative at [dow.com/contactus](https://www.dow.com/contactus).

Image: dow\_40962965400

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