Consumers desire healthy-appearing skin and hair while online and in person. More products are launched every year with radiance and illuminating benefits as consumers seek products with these claims. Look to DOWSIL™ 1686 Resin to use in formulations to make products that may enable consumers to look their best and be their brightest star.

DOWSIL™ 1686 Resin is a liquid phenyl silicone resin that imparts shine and radiance, contributes to color value, provides medium and comfortable wear, and controls frizz. DOWSIL™ 1686 Resin can be easily formulated into various product formats. Dow has several technologies across the portfolio that showcase exceptional results in color cosmetics/makeup, skincare and hairstyling, making DOWSIL™ 1686 Resin an innovative product to use in various personal care applications.

**Features and benefits:**
- Very high refractive index product that imparts radiance and shine to skin and hair
- Contributes to color value
- Provides medium and comfortable wear
- Provides good frizz control for various hair types
- Less product required to achieve consistent, uniform coverage and color over six hours

**Applications**
- Skincare
- Color cosmetics
- Hair care

**Sustainability benefits**
- Non-GMO
- Non-animal origin (potentially suited for vegans)
- Low carbon footprint when formulating (no heat, no cooling)

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**Typical properties**

<table>
<thead>
<tr>
<th>INCI name</th>
<th>Polyphenylsilsesquioxane</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Clear colorless liquid</td>
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<tr>
<td>Active content %</td>
<td>100%</td>
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<tr>
<td>Refractive Index, 25°C</td>
<td>1.495-1.5100</td>
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<tr>
<td>Viscosity</td>
<td>1000-6000 cPs</td>
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<tr>
<td>D4/D5/D6 level</td>
<td>&lt;0.1%/&lt;0.1%/&lt;0.1%</td>
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<tr>
<td>Shelf life</td>
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<tr>
<td>Preservative</td>
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<td>Recommended use level</td>
<td>1-20%</td>
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<tr>
<td>China regulatory status</td>
<td>Approved – listed in the Catalog of Cosmetic Ingredients</td>
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</table>
Unique properties of DOWSIL™ 1686 Resin
DOWSIL™ 1686 has intermediate viscosity with a high refractive index

DOWSIL™ 1686 Resin Migration test
(0.2 ml applied/90 degree vertical/plexiglass sheet)

DOWSIL™ 1686 Resin improves chroma/gloss with Si-coated pigment

Anhydrous Hair Serum
Frizz control
Hair treatment protocol
1. Wash 4 grams frizzy tress with 0.8 grams of 9% SLES, rinse with abundant water
2. Dry overnight
3. Apply 0.35 grams of the formulation, rub with fingers and comb through 5 times
4. Let dry for at least six hours at 50% RH
5. Place in humidity chamber at 25°C and 80% RH
6. Measure frizz and fly-aways with BNV Bolero

Note: All conditions tested in duplicate
0.75 gram/tress

• Anhydrous serums featuring DOWSIL™ PMX-1505 and DOWSIL™ 1686 Resin have frizz control benefits.
• The addition of DOWSIL™ 1686 Resin further delivers statistically-significant frizz reduction vs. the gum-only control
**DOWSIL™ 1686 Resin**

- Maintains color uniformity on eyes, cheeks and forehead
- Eye shadow, foundation stick and multi-stick provide even coverage and continue to have a dewy, radiant appearance over time
- Provides more contrast and shine under natural light

**About Dow**

Dow Personal Care offers unique, innovative ingredients that enable customers around the world to create products with exceptional performance and exciting benefits that consumers can trust and believe in. Whether they seek the confidence of a healthy appearance or the comforts of a clean home, consumers can see and feel the difference in our products through their lustrous hair, radiant skin, shiny surfaces and fabrics that look and smell fresh. We leverage our understanding of customer needs, deep market knowledge and technical expertise—combined with one of the broadest portfolios of technologies—to deliver home and personal care solutions with outstanding performance that are safe for people and the planet. We foster these innovations on global and local levels to meet the needs of diverse consumers through business centers, research and development (R&D), manufacturing plants and customer application centers around the world. Please visit [www.dow.com/personalcare](http://www.dow.com/personalcare) for more information.