A Novel Silicone Dispersion for Unique Textures and Sensory Experiences
Surge of Leave-in Hair Products

- Fueled by consumers’ increasing desire for fashion and beauty, leave-in hair products have proliferated in the last decade. Last year alone, there were more than 5,000 products launched around the globe.¹
- More than ever, formulators are crafting leave-in products that combine styling and nourishing to protect hair and repair damage, provide control and definition, add shine, and create texture.
- Product efficacy claims, tailored solutions, new product formats (such as multifunctional hybrids) and unique texture are examples of differentiation in this crowded market.

¹Mintel database.
Redken One United All-in-One

Multibenefit treatment, for all hair types and textures, is claimed to offer 25 benefits that increase manageability, protection and beauty of hair: it conditions, nourishes, improves manageability, helps even porous hair, reduces dryness, detangles, delivers instant results, offers an ideal cutting solution, primes hair for styling, helps prevent breaking from brushing, is safe for color-treated hair, helps prevent heat damage, helps prevent split ends, helps seal in hair cuticle, is safe for ombre hair, helps shield against external aggressors, gives a silky touch, adds smoothness, adds shine, helps control frizz, is anti-static, controls flyaways, makes blow-drying easier, acts as a style refresher, and provides lightweight results.

Ingredients: Aqua (water), Cocos nucifera oil (coconut oil), amodimethicone, polyquaternium-37, phenoxyethanol, propylene glycol dicaprylate/dicaprate, parfum (fragrance), acetamide MEA, lactamide MEA, dimethicone PEG-7 phosphate, PPG-1 trideceth-6, trideceth-6, behentrimonium chloride, xylose, lactic acid, ethylhexylglycerin, cetrimonium chloride, hydrolyzed vegetable protein PG-propyl silanetriol, citronellol, geraniol, linalool, alpha-isomethyl ionone, Viola odorata extract, Viola odorata flower/leaf extract, sodium hydroxide, D171495/2

Source: Mintel database.
Ted Gibson Goodnite Replenish Hair Repair Serum

A hair treatment with vitamins A, B and E and wild orchid and wheat protein extracts to soothe the scalp and hair. The serum repairs and conditions overworked hair, moisturizing and nourishing it.

**Ingredients:** Water (aqua), cyclopentasiloxane, orchis maculata flower extract, lavandula angustifolia (lavender) oil, tocopheryl acetate, hydroxypropyltrimonium hydrolyzed silk, retinyl palmitate, fragrance (parfum), glycerin, PEG-40 hydrogenated castor oil, panthenol, methylparaben, dimethicone, disodium EDTA, amodimethicone, cetrimonium chloride, PEG-12 dimethicone, steartrimonium chloride, hydroxyethylcellulose, trideceth-12

Source: Mintel database.
Philip B Oud Royal Mega-Curl Enhancer

A miracle botanical styler, this product is said to fight frizz, revive shine, and activate waves and curls, leaving them super-soft, glossy and defined and easier to control than ever. It contains super-moisturizing agents and is claimed to leave curls bouncy and shiny for days as they are locked in time-release moisture for supple definition and high shine.

**Ingredients:** water (aqua), cetearyl alcohol, fragrance (perfume), Carthamus tinctorius (safflower) oleosomes, cetyl esters, phenoxyethanol, hydroxyethylcellulose, behentrimonium chloride, glycerin, panthenol, Schinziophyton rautanenii kernel oil, quaternium-91, glycolic acid, cetrimonium methosulfate, polyquaternium-37, sodium benzoate, polyurethane-14, aminomethyl propanol, linalool, hexyl cinnamal, citronellol, ethylhexylglycerin, AMP-acrylate copolymer, cetrimonium chloride, benzyl salicylate, amodimethicone, butylphenyl methylpropional, limonene, tetrasodium EDTA

Source: Mintel database.
INTRODUCING

Dow Corning® 3901 Liquid Satin Blend

for Leave-in Hair Care Applications
Desire to Differentiate

Whether prestige or masstige, *Dow Corning®* 3901 Liquid Satin Blend can help you **differentiate your leave-in formulations** and deliver **luxurious smoothness, playful textures** in formulation, and beauty-enhancing benefits like **stylability** and **shine**.

**INCI Name:**
Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer

**Typical Properties**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% Active</td>
<td>6.25%</td>
</tr>
<tr>
<td>Carrier Fluid</td>
<td>XIAMETER® PMX-200 Silicone Fluid, 2 cSt</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear, thick, stringy liquid</td>
</tr>
<tr>
<td>Typical Use Levels in Hair Care</td>
<td>3-20%</td>
</tr>
</tbody>
</table>

Beauty & Personal Care Solutions
Key Benefits of *Dow Corning®* 3901 Liquid Satin Blend in Hair Care

- **Unique rheology**
- **Satin-like sensory**
- **Stylability**
Product Background

*Dow Corning® 3901 Liquid Satin Blend*

**INCI Name:**
Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer

**Properties:**

<table>
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<td>Typical Use Levels in Hair Care</td>
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</table>

*Stringiness of 3901*

- ▲ Stretches more than 100 cm

Beauty & Personal Care Solutions
Unique Rheology: Stringiness

- Stringiness property increases in oil-in-water and water-in-oil systems upon further addition of Dow Corning® 3901 Liquid Satin Blend
- Rheology differences seen when using as little as 1-2 wt.% Dow Corning® 3901 Liquid Satin Blend
Unique Rheology: Effects on Viscosity

Water-in-oil test emulsion

Note: Very little viscosity difference seen in Si/W emulsions due to test materials in the internal phase.
Unique Rheology: Modification

*Dow Corning®* 3901 Liquid Satin Blend imparts a “stringy” rheology to many formulations whether water-in-oil or oil-in-water emulsions.

*Dow Corning®* 3901 Liquid Satin Blend

Stringy texture easily seen and felt

Gum/Elastomer Blends

Stringy rheology not present
**Dow Corning® 3901 Liquid Satin Blend in Hair Care Applications**

### Consumer Benefits

- Unique rheology
- Reduced friction
- Smoothness, slipperiness, flexibility
- Shine
- Enhanced dry combing
- Curl retention and definition
- Reduced static
- Ease of styling
- Hair alignment
- Reduced frizz
- Heat protection

### Formulator Benefits

- Unique rheology
- China cosmetic use compliant
- Low cyclics content (<0.1%)
- Cold processing possible
Luxe Leave-in Kit

*With Dow Corning® 3901 Liquid Satin Blend*
What’s Inside

String of Pearls Hair Oil
CPF 2264

- Anhydrous serum – unique rheology, reduced friction, smoothness, slipperiness, flexibility, curl retention and definition, shine

Styling Silk
CPF 2265

- Water-in-silicone cream – unique rheology, reduced friction, curl retention and definition, ease of styling, hair alignment, enhanced dry combing

Stretchy Satin Soufflé
CPF 2266

- Water-in-oil cream – unique rheology, reduced friction, shine, reduced static, enhanced dry combing

Nourishing Hair Butter
CPF 2269

- Oil-in-water soft wax – shine, reduced friction

Smoothing Potion
CPF 2272

- Oil and water phased system – reduced friction, reduced static, reduced frizz, enhanced dry combing

Beauty & Personal Care Solutions
DOW CORNING
String of Pearls
Hair Oil
CPF 2264
String of Pearls Hair Oil (CPF 2264)

**Anhydrous serum** – unique rheology, reduced friction, smoothness, slipperiness, flexibility, curl retention and definition, shine

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<th>Ingredients/INCI Name</th>
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<th>Weight %</th>
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<tbody>
<tr>
<td>Dimethicone (and) Dimethicone Vinyl/Dimethicone Crosspolymer</td>
<td>DOW CORNING® 3901 LIQUID SATIN BLEND</td>
<td>20</td>
</tr>
<tr>
<td>Dimethicone</td>
<td>XIAMETER® PMX-200 SILICONE FLUID, 2 CST</td>
<td>78</td>
</tr>
<tr>
<td>Argania Spinosa Kernel Oil</td>
<td>Argan Oil/Bramble Berry Inc.</td>
<td>0.5</td>
</tr>
<tr>
<td>Helianthus Annuus (Sunflower) Seed Oil</td>
<td>Sunflower Oil/Sigma Aldrich</td>
<td>0.5</td>
</tr>
<tr>
<td>Prunus Amygdalus Dulcis (Sweet Almond) Oil</td>
<td>Sweet Almond Oil/Bramble Berry Inc.</td>
<td>0.5</td>
</tr>
<tr>
<td>Tocopherol Acetate (Vitamin E)</td>
<td>Vitamin E Acetate/BASF Corporation</td>
<td>0.3</td>
</tr>
<tr>
<td>Fragrance</td>
<td>Heavenly Honeysuckle Fragrance/Bramble Berry Inc.</td>
<td>0.2</td>
</tr>
</tbody>
</table>

**Procedure:**
1. Mix ingredients 1 and 2 together until homogeneous.
2. Add remaining ingredients in order while mixing.
STRING OF PEARLS HAIR OIL

Unique Rheology

String of Pearls Hair Oil w/Dow Corning® 3901 Liquid Satin Blend

Hair Oil w/XIAMETER® PMX-1502 Fluid

Hair Oil w/Dow Corning® EL-9240 Silicone Elastomer Blend

Silicone polymer active level: 1.25%.
Luster Test

- Bossa Nova Tech Samba Hair System
  - Analyze diffuse and specular reflection
  - Calculate luster value
    \[ Luster = \frac{S_{in}}{(D + S_{out})W_{visual}} \]
    - \( S_{in}, S_{out} \): specular light components
    - \( D \): total diffuse light
    - \( W_{visual} \): visual width of light

- 3 tresses per treatment
- 3 measurements per tress
Coefficient of Friction Test

- Diastron MTT175 tensile tester
- 150 g normal force mounted on rubber probe
- Generate friction data with and against hair cuticles
  - Coefficient of friction (COF) out and in
    \[ COF = \frac{F}{N} \]
    - F: externally applied force
    - N: normal force
- 3 tresses per treatment
- 5 measurements per tress
Shine and Reduced Friction

**String of Pearls Hair Oil**

Statistically different from String of Pearls Hair Oil: *$>95\%$, **$>99\%$, ***$>99.9\%$

**Treatment:** 0.15 g applied to 2 g medium bleached Caucasian hair tress. **Silicone polymer active level:** 1.25%.
Curl Retention and Definition

Statistically different from String of Pearls Hair Oil: *>95%, **>99%, ***>99.9%

Treatment: 0.15 g/g on medium brown Caucasian hair tress.
Silicone polymer active level: 1.25%.
Test conditions: 80% relative humidity/25°C.
Hair Oil: Smoothness, Slipperiness and Flexibility

String of Pearls Hair Oil vs. Control Hair Oil w/out Dow Corning® 3901 Liquid Satin Blend

- Control Hair Oil w/out Dow Corning® 3901 Liquid Satin Blend
- String of Pearls Hair Oil

String of Pearls Oil vs. Hair Oil w/XIAMETER® PMX-1502 Fluid

- Hair Oil w/XIAMETER® PMX-1502 Fluid
- String of Pearls Hair Oil

Statistically different from String of Pearls Hair Oil: * > 90%, ** > 95%, *** > 99%

Comments for String of Pearls Hair Oil:
- Smoother, less frizz and flyaway
- Easier to comb
- Very natural look

Comments for String of Pearls Hair Oil:
- Softer and neater
- More natural and pleasant
- Easier to comb through

Sensory panel: 18 panelists.
Treatment: 0.15 g applied to 2 g medium bleached Caucasian hair tress. **Silicone polymer active level**: 1.25%.
Styling Silk

CPF 2265
**Styling Silk** (CPF 2265)

**Water-in-silicone cream** – unique rheology, reduced friction, curl retention and definition, ease of styling, hair alignment, enhanced dry combing

<table>
<thead>
<tr>
<th>Ingredients/INCI Name</th>
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<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase A</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethicone (and) Dimethicone Vinyl/Dimethicone Crosspolymer</td>
<td><em>DOW CORNING® 3901 LIQUID SATIN BLEND</em></td>
<td>10</td>
</tr>
<tr>
<td>Dimethicone</td>
<td><em>XIAMETER® PMX-200 SILICONE FLUID 2 CS</em></td>
<td>12</td>
</tr>
<tr>
<td>Dimethicone (and) PEG/PPG-18/18 Dimethicone</td>
<td><em>DOW CORNING® ES-5226 FORMULATION AID</em></td>
<td>4</td>
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<tr>
<td>Carthamus Tinctorius (Safflower) Seed Oil</td>
<td>Safflower Oil/Rita Corporation</td>
<td>0.1</td>
</tr>
<tr>
<td>Olea Europaea (Olive) Fruit Oil</td>
<td><em>Cropure™ Olive/Croda</em></td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Phase B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Fisher Scientific</td>
<td>67.7</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td><em>Luviset® Clear/BASF Corporation</em></td>
<td>1</td>
</tr>
<tr>
<td>VP/Methacrylamide/Vinyl Imidazole Copolymer</td>
<td><em>Hydrosoy™ 2000-LQ-(WD)/Croda</em></td>
<td>0.1</td>
</tr>
<tr>
<td>Aloe Vera</td>
<td><em>Symrise</em></td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Phase C</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenoxyethanol (and) Ethylhexylglycerin</td>
<td><em>Euxyl® PE 9010/Schülke &amp; Mayr</em></td>
<td>0.5</td>
</tr>
<tr>
<td>Fragrance</td>
<td>Grapefruit Bellini Fragrance/Bramble Berry Inc.</td>
<td>0.2</td>
</tr>
</tbody>
</table>

**Procedure:**
1. Mix first two ingredients of Phase A until homogeneous.
2. Combine remaining Phase A ingredients with the premix made in step 1 and mix with a dual-blade setup at 500 rpm until homogeneous.
3. Premix Phase B until homogeneous.
4. Increase mixing speed to 1,300 rpm.
5. Add Phase B slowly (drop by drop) to Phase A with continuous agitation.
6. Add Phase C to AB with gentle mixing.

*Cropure* and *Hydrosoy* are trademarks of the Croda group of companies. *Luviset* is a registered trademark of BASF SE. *Euxyl* is a registered trademark of Schülke & Mayr GmbH.
Unique Rheology

Styling Silk w/ Dow Corning® 3901 Liquid Satin Blend

Styler w/10% XIAMETER® PMX-1502 Fluid

Styler w/10% Dow Corning® EL-9240 Silicone Elastomer Blend
Reduced Friction

Statistically different from Styling Silk: * >95%, ** >99%, *** >99.9%

**Treatment:** 0.2 g/g on slightly bleached Caucasian hair tress.
Curl Retention and Definition

Statistically different from Dow Corning® 3901 Liquid Satin Blend w/out resin: *≥95%, **≥99%, ***≥99.9%

Treatment: 0.15 g/g on medium brown Caucasian hair tress.
Test conditions: 80% relative humidity/25°C.
Styling Silk: Ease of Styling and Alignment

Treatment: 0.4 g applied to 4 g Caucasian frizzy hair tress. Tresses were air-dried, then flat-ironed 2 times at 230ºC.
Enhanced Dry Combing

Sensory panel: 20 panelists.
Treatment: 0.10 g/g on slightly bleached Caucasian hair tress.

Statistically different from Styling Silk: ***>99.9%
Stretchy Satin Soufflé

CPF 2266
Stretchy Satin Soufflé (CPF 2266)

Water-in-oil cream – unique rheology, reduced friction, shine, reduced static, enhanced dry combing

<table>
<thead>
<tr>
<th>Ingredients/INCI Name</th>
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<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase A</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethicone (and) Dimethicone/ Vinyl Dimethicone Crosspolymer</td>
<td><strong>DOW CORNING® 3901 LIQUID SATIN BLEND</strong></td>
<td>5</td>
</tr>
<tr>
<td>Isohexadecane</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Lauryl PEG/PPG-18/18</td>
<td><strong>DOW CORNING® 5200 FORMULATION AID</strong></td>
<td>2</td>
</tr>
<tr>
<td>Argania Spinosa Kernel Oil</td>
<td>Argan Oil/Bramble Berry Inc.</td>
<td>0.5</td>
</tr>
<tr>
<td>Macadamia Ternifolia Seed Oil</td>
<td>Macadamia Oil/Bramble Berry Inc.</td>
<td>0.5</td>
</tr>
<tr>
<td>Moringa Oleifera Oil</td>
<td><strong>Floralipids® Moringa Oil/Floratech</strong></td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Phase B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>79.3</td>
</tr>
<tr>
<td>Glycerin</td>
<td>Fisher Scientific</td>
<td>3</td>
</tr>
<tr>
<td>Hydrolyzed Silk Amino Acids</td>
<td><strong>Crosilk™ Liquid-LQ-(WD)/Croda</strong></td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Phase C</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenoxyethanol (and) Ethylhexylglycerin</td>
<td><strong>Euxyl® PE 9010/Schülke &amp; Mayr</strong></td>
<td>0.5</td>
</tr>
<tr>
<td>Fragrance</td>
<td>Pomegranate &amp; Black Currant Fragrance/Bramble Berry Inc.</td>
<td>0.2</td>
</tr>
</tbody>
</table>

**Procedure:**
1. Mix first two ingredients of Phase A together until homogeneous.
2. Add remaining ingredients of Phase A and mix until uniform.
3. Mix ingredients of Phase B together until homogeneous.
4. Add Phase B to Phase A very slowly with turbulent mixing at approximately 1,300 rpm.
5. After the addition of Phase B is complete, continue to mix for 10 minutes.
6. Add Phase C to AB with gentle mixing.
Unique Rheology

Stretchy Satin Soufflé

Control Soufflé w/out Dow Corning® 3901 Liquid Satin Blend
Shine and Reduced Friction

**Average Luster**
- Untreated***
- Control Soufflé w/out *Dow Corning® 3901 Liquid Satin Blend*
- Stretchy Satin Soufflé

**Coefficient of Friction**
- Untreated***
- Control Soufflé w/out *Dow Corning® 3901 Liquid Satin Blend*
- Stretchy Satin Soufflé

- Statistically different from Stretchy Satin Soufflé: ***≥99.9%

**Treatment:** 0.15 g/g on medium bleached Caucasian hair tress.
Enhanced Dry Combing and Reduced Static

**Enhanced Dry Combing**

- Untreated*
- Stretchy Satin Soufflé

**Reduced Static**

- Untreated*
- Stretchy Satin Soufflé

Statistically different from Stretchy Satin Soufflé: *≥95%

**Sensory Panel:** 20 panelists.

**Treatment:** 0.10 g/g on slightly bleached Caucasian hair tress.
Ease of Styling and Alignment

**Untreated**

<table>
<thead>
<tr>
<th>2 PASSES</th>
<th>4 PASSES</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Untreated_Hair_2_Passes" /></td>
<td><img src="image2.png" alt="Untreated_Hair_4_Passes" /></td>
</tr>
</tbody>
</table>

**Styler w/Dow Corning® 3901 Liquid Satin Blend**

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<thead>
<tr>
<th>2 PASSES</th>
<th>4 PASSES</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Styler_Hair_2_Passes" /></td>
<td><img src="image4.png" alt="Styler_Hair_4_Passes" /></td>
</tr>
</tbody>
</table>

**Treatment:** 0.4 g applied to 4 g Caucasian frizzy hair tress. Tresses were air-dried, then flat-ironed at 230°C.
Reduced Friction

Without organic styling resin or natural oils

Statistically different from 3901: * > 95%, ** > 99%, *** > 99.9%

Treatment: 0.15 g/g on medium bleached Caucasian hair
Nourishing Hair Butter

CPF 2269
Nourishing Hair Butter  (CPF 2269)

Oil-in-water soft wax – shine, reduced friction

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<td></td>
<td></td>
</tr>
<tr>
<td>Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer</td>
<td>DOW CORNING® 3901 LIQUID SATIN BLEND</td>
<td>3</td>
</tr>
<tr>
<td>Caprylyl Methicone</td>
<td>DOW CORNING® FZ-3196</td>
<td>10</td>
</tr>
<tr>
<td><strong>Phase B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>66.1</td>
</tr>
<tr>
<td>Cetearyl Alcohol</td>
<td>Crodaco™ CS50/Croda</td>
<td>2</td>
</tr>
<tr>
<td>Garcinia Indica Seed Butter</td>
<td>Kokum Butter-Ultra Kokum Butter-Ultra Refined/Biochemica International</td>
<td>4</td>
</tr>
<tr>
<td>Beeswax</td>
<td>Beeswax, White/Strahl and Pitsch Inc.</td>
<td>4</td>
</tr>
<tr>
<td>Glyceryl Stearate (and) PEG-100 Stearate</td>
<td>Arlacet™ 165/Croda</td>
<td>1</td>
</tr>
<tr>
<td>Limnanthes Alba (Meadowfoam) Seed Oil</td>
<td>Meadowfoam Seed Oil/Charkit Chemical Corp.</td>
<td>0.1</td>
</tr>
<tr>
<td>Persea Gratissima (Avocado) Oil</td>
<td>Avocado Oil/From Nature with Love</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Phase C</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Polyacrylate (and) Dimethicone (and) Cyclopentasiloxane (and) Trideceth-6 (and) PEG/PPG-18/18 Dimethicone</td>
<td>DOW CORNING® RM 2051 THICKENING AGENT</td>
<td>4</td>
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<tr>
<td><strong>Phase D</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerin</td>
<td>Glycerin/Fisher Scientific</td>
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</tr>
<tr>
<td>Fragrance</td>
<td>Relaxing Fragrance/Bramble Berry Inc.</td>
<td>0.2</td>
</tr>
<tr>
<td>Phenoxylethanol (and) Ethylhexylglycerin</td>
<td>Euxyl® PE 9010/Schülke &amp; Mayr</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Procedure:
1. Premix Phase A until homogeneous.
2. Mix Phase B ingredients and, using a water bath, heat to 80°C until completely melted.
3. Add Phase A to Phase B, mixing until homogeneous.
4. Turn off heat.
5. Add Phase C and increase mixing to 1,100 rpm while viscosity is increasing.
6. Add Phase D ingredients.
7. Compensate for the water loss due to heating.
8. Formulation requires a few days to reach desired texture.

*Crodacol* and *Arlacel* are trademarks of the Croda group of companies. *Euxyl* is a registered trademark of Schülke & Mayr GmbH.
Shine and Reduced Friction

Statistically different from Nourishing Hair Butter: * > 95%, ** > 99%, *** > 99.9%

Treatment: 0.15 g/g on slightly bleached Caucasian hair tress.
Smoothing Potion

CPF 2272
# Smoothing Potion (CPF 2272)

## Oil and water phased system – reduced friction, reduced static, reduced frizz, enhanced dry combing

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<td>Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer</td>
<td><em>DOW CORNING®</em> 3901 LIQUID SATIN BLEND</td>
<td>3</td>
</tr>
<tr>
<td>Dimethicone</td>
<td>XIAMETER® PMX-200 SILICONE FLUID, 2 CST</td>
<td>12.5</td>
</tr>
<tr>
<td>Isododecane</td>
<td><em>Permethyl® 99A</em>/Presperse, Inc.</td>
<td>12.5</td>
</tr>
<tr>
<td>Fragrance</td>
<td>Black Amber &amp; Lavender Fragrance/Bramble Berry Inc.</td>
<td>0.2</td>
</tr>
<tr>
<td>Ethylhexyl Methoxycinnamate</td>
<td><em>Parso® MCX</em>/DSM Nutritional Products</td>
<td>1</td>
</tr>
<tr>
<td>PEG-7 Dimethicone (and) Laureth-7 (and) Polysorbate 20</td>
<td><em>DOW CORNING®</em> CE-1874 MICROEMULSION</td>
<td>2</td>
</tr>
<tr>
<td><strong>Phase B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>64.8</td>
</tr>
<tr>
<td>Glycerin</td>
<td>Glycerin, USP Grade/Fisher Scientific</td>
<td>3</td>
</tr>
<tr>
<td>Silk Amino Acids (and) Water</td>
<td><em>Crosilk™</em> Liquid-LQ-(WD)/Croda</td>
<td>0.1</td>
</tr>
<tr>
<td>Hydrolyzed Keratin (and) Water</td>
<td><em>Crotein™</em> WKP-LQ(WD)/Croda</td>
<td>0.1</td>
</tr>
<tr>
<td>Panthenol</td>
<td>D-Panthenol 50P/BASF Corporation</td>
<td>0.1</td>
</tr>
<tr>
<td>Phenoxyethanol and Ethylhexylglycerin</td>
<td><em>Euxyl® PE 9010</em>/Schülke &amp; Mayr</td>
<td>0.5</td>
</tr>
<tr>
<td>0.04% solution of FD&amp;C Blue 1 and 0.16% D&amp;C Red 33 in water</td>
<td>FD&amp;C Blue 1 and D&amp;C Red 33/Sensient Cosmetic Technologies</td>
<td>0.2</td>
</tr>
</tbody>
</table>

### Procedure:
1. Mix first three ingredients of Phase A together until homogeneous.
2. Combine remaining Phase A ingredients with the premix made in step 1 and mix until homogeneous.
3. Mix Phase B ingredients together and add to Phase A with mixing.

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Reduced Friction

Statistically different from Smoothing Potion: *≥95%, **≥99%, ***≥99.9%

**Treatment:** 0.15 g/g on slightly bleached Caucasian hair tress.
Enhanced Dry Combing and Reduced Static

Enhanced Dry Combing

Reduced Static

Statistically different from Smoothing Potion: *** ≥ 99.9%

Sensory Panel: 20 panelists.

Treatment: 0.15 g/g on slightly bleached Caucasian hair tress.
Reduced Static

**Treatment:** 0.15 g/g on slightly bleached Caucasian hair tress. Tresses were combed 3 times quickly.
Reduced Frizz

**Treatment:** 0.15 g/g hair applied to 4 g Caucasian frizzy hair tress. Tresses were air-dried and then left in a room with constant temperature and humidity (50%/25°C) for 24 hours.
# Dow Corning® 3901 Liquid Satin Blend

<table>
<thead>
<tr>
<th>Description</th>
<th>High-molecular-weight branched polymer</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCI Name</td>
<td>Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer</td>
</tr>
<tr>
<td>Applications</td>
<td>Leave-in hair care, skin care, color cosmetics, body and face care (BB and CC cream, eye creams), other applications</td>
</tr>
<tr>
<td>Benefits in Hair Care Applications</td>
<td>Unique rheology (stringiness), reduced friction, smoothness, slipperiness, flexibility, shine, curl retention and definition, reduced static, ease of styling, hair alignment, reduced frizz, heat protection, enhanced dry combing</td>
</tr>
<tr>
<td>Typical Use Levels in Hair Care</td>
<td>3-20%</td>
</tr>
<tr>
<td>Cosmetic Regulation Status</td>
<td>Listed in the Catalogue of Cosmetics Ingredients used in China</td>
</tr>
</tbody>
</table>
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