Hair care

ingredients portfolio
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| Advantage 4910 polymer | Octylacrylamide/Acrylates/Butylaminoethyl Methacrylate Copolymer | Powder | ![Structure](image1.png) | - Excellent high humidity curl retention  
- Exceptional stiffness  
- Long-lasting hold  
- High propellant tolerance  
- Works in all VOC systems | - Aerosol hairsprays  
- Non-aerosol hairsprays | 0.5 – 5.0% solids |
| Aquaflex™ FX-64 polymer | Isobutylene/Ethylmaleimide/Hydroxyethyl Maleimide Copolymer | 40% solids in hydro-alcoholic solution | ![Structure](image2.png) | - Provides superior “stiff” hold  
- Good curl memory  
- Excellent high humidity curl retention  
- Shine  
- Manageability  
- No neutralization required | - Aerosol hairsprays  
- Non-aerosol hairsprays  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | Non-aerosol sprays: 0.25 – 7% solids |
| Aquaflex SF-40 polymer | VP/Vinyl Caprolactam/DMAPA Acrylates Copolymer | 40% solids in ethanol | ![Structure](image3.png) | - Can be formulated at all VOC levels  
- Good sprayability  
- Excellent high humidity curl retention  
- Low-tack  
- High propellant compatibility | - Aerosol hairsprays  
- Non-aerosol hairsprays  
- Mousses  
- Sprays  
- Pomades, waxes, pastes  
- Shampoos  
- Conditioners  
- Hair treatments | 0.25 – 4.0% solids |
| Aquaflex™ XL-30 polymer | Polyimide-1 | 30% aqueous solution | ![Structure](image4.png) | - Volume and root boost  
- Synergistic high humidity curl retention when used with typical thickeners  
- Flexibility gives style memory  
- Durable hold  
- Dry films on hair are smooth | - Gels  
- Spray gels  
- Spray mousses  
- Pomades, waxes, pastes  
- Shampoos  
- Conditioners  
- Hair treatments | 0.25 – 5.0% solids |
| AquaStyle™ 300 polymer | Polyquaternium-69 | 30% solids in hydroalcoholic solution | ![Structure](image5.png) | - Long-lasting hold  
- Stiff, strong hold with mechanical durability  
- Excellent high humidity curl retention  
- Enhances shine  
- Reduction of frizz  
- AquaStyle 300 AF support alcohol-free claims, meets low-VOC requirements  
- Synergistic thickening with hydrophobically modified gellants  
- Forms a sprayable polyelectrolyte matrix when used in conjunction with one of the following rheology modifiers (Ashland™ 980/940 Carbomer, RapiThix A-60) | - Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes  
- Styling sprays (non-aerosol) | 0.25 – 5.0% solids |
| AquaStyle 300 AF polymer | Acrylates Copolymer (and) Water | 30% aqueous solution | ![Structure](image6.png) | - Durable, all day hold  
- Good initial stiffness  
- Excellent high humidity curl retention  
- Smooth comb-through  
- No tack upon drying  
- No flaking  
- Contributes to viscosity in formulations | - Crystal clear gels  
- Cream gels  
- Spray gels  
- Creams and lotions  
- Waxes and pomades  
- Mousses  
- Patent pending | 0.5 – 2.0% solids |
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| Copolymer 845              | VP/Dimethylaminoethyl Methacrylate Copolymer                             | 20% aqueous solution              | ![Structure](structure1.png)                                                                    | - Aids wet and dry combing  
- Imparts smoothness, glass, body and silky feel to hair  
- Gives smooth, conditioned feel to skin  
- Water and alcohol compatible  
- Copolymer 845 is compatible with Carbomer and can be formulated into clear gels  
- Forms a sprayable polyelectrolyte matrix when used in conjunction with one of the following rheology modifiers (Ashland 980/940 Carbomer, RapiThix A-60) | - Gels  
- Blow-dry conditioners  
- Styling creams/lotions  
- Pomades, waxes, pastes  
- Conditioning rinses  
- Styling sprays  
- Low-VOC sprays                             | 0.2 – 4.0% solids              |
| Copolymer 845 O            | (Optiphen™ Preserved)                                                     |                                   |                                                                                                   |                                                                                                                 | - Hairsprays                                     | 0.5 – 4.0% solids            |
| Copolymer 937              |                                                                            | 20% aqueous solution              | ![Structure](structure2.png)                                                                    | - Superior “natural feel” hold at low solids level  
- Excellent propellant compatibility  
- No neutralization required                                                                 | - Mousses  
- Styling sprays  
- Pomades, waxes, pastes  
- Leave-in conditioning lotions  
- Styling sprays  
- Leave-in conditioning lotions  
- Styling sprays | 0.25 – 4.0% solids            |
| Copolymer 958              |                                                                            | 50% solids in ethanol             |                                                                                                   |                                                                                                                 |                                                   |                            |
| Gaffix™ VC-713 polymer      | Vinyl Caprolactam/VP/Dimethylaminoethyl Methacrylate Copolymer            | 37% solids in ethanol             | ![Structure](structure3.png)                                                                    | - Good wet and dry combing  
- Good curl retention  
- Clear, non-tacky films  
- Builds body  
- Enhances hair luster  
- Manageability  
- Easy shampoo removability  
- Improves foam aesthetics  
- Smooth skin application with desirable after-feel | - Mousses  
- Gels  
- Styling sprays  
- Pomades, waxes, pastes  
- Leave-in conditioning lotions  
- Styling sprays  
- Leave-in conditioning lotions  
- Styling sprays | 0.25 – 4.0% solids            |
| Gafquat™ 440 polymer        | Polyquaternium-11                                                         | Flowable 30% alcoholic solution:  
100,000 avg. MW                      | ![Structure](structure4.png)                                                                    | - Thermal/mechanical protection  
- Good wet and dry combing  
- Good curl retention in leave-on hair styling products  
- Clear, non-tacky films  
- Builds body  
- Enhances hair luster  
- Manageability  
- Improves foam aesthetics  
- Easy shampoo removability  
- Smooth skin application with desirable after-feel  
- Forms a sprayable polyelectrolyte matrix when used in conjunction with one of the following rheology modifiers (Ashland 980/940 carbomer, RapiThix A-60) | - Mousses  
- Gels  
- Pomades, waxes, pastes  
- Shampoos  
- Conditioning rinses  
- Leave-in conditioning lotions  
- Styling sprays  
- Leave-in conditioning lotions  
- Styling sprays | 0.25 – 4.0% solids            |
| Gafquat 755N polymer        |                                                                            | Highly viscous 20% aqueous solution:  
1,000,000 avg. MW                    | ![Structure](structure5.png)                                                                    |                                                                                                                 |                                                   |                            |
<p>| Gafquat 755N-P polymer      | (phenoxyethanol-paraben preserved)                                        |                                   |                                                                                                   |                                                                                                                 |                                                   |                            |
| Gafquat 755N-O polymer      | (Optiphen™ preserved)                                                     |                                   |                                                                                                   |                                                                                                                 |                                                   |                            |</p>
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| Gafquat HS-100 polymer      | Polyquaternium-28                | 20% aqueous solution        | ![Structure](image1.png) | - Good wet and dry combing  
  - Good curl retention in leave-on hair styling products  
  - Clear, non-tacky films  
  - Enhances hair luster  
  - Excellent stability at pH extremes  
  - Forms a sprayable polyelectrolyte matrix when used in conjunction with one of the following rheology modifiers (Ashland 980/940 Carbomer, RapiThix A-60) | Shampoos  
  - Conditioners  
  - Styling creams/lotions  
  - Gels  
  - Mousses  
  - Pomades, waxes, pastes  
  - Styling sprays  
  - Permanent wave solutions | Shampoos/conditioners: up to 1.0% solids  
Styling: 2.0 – 4.0% solids |
| Gafquat HS-100-0 polymer (Optiphen preserved) |                                    |                             | ![Structure](image2.png) |                                                                       |                                    |                     |
| Gantrez™ A-425 polymer      | Butyl Ester of PVM/MA Copolymer   | 50% solids in ethanol       | ![Structure](image3.png) | - High hold  
  - Excellent shine  
  - Durability  
  - Tack-free  
  - Good style retention  
  - Humidity resistant  
  - Good propellant compatibility  
  - Pigment dispersant  
  - Emulsion stabilizer | Aerosol hairsprays  
  - Non-aerosol hairsprays  
  - Spritzer gels  
  - Mousses  
  - Styling creams/lotions  
  - Pomades, waxes, pastes | 0.5 – 7.0% solids |
| Gantrez ES-225 polymer      | Ethyl Ester of PVM/MA Copolymer   | 50% solids in ethanol       | ![Structure](image4.png) |                                                                       |                                    |                     |
| Gantrez ES-335 polymer      | Isopropyl Ester of PVM/MA Copolymer | 50% solids in isopropanol | ![Structure](image5.png) |                                                                       |                                    |                     |
| Gantrez ES-425 polymer      | Butyl Ester of PVM/MA Copolymer   | 50% solids in ethanol       | ![Structure](image6.png) |                                                                       |                                    |                     |
| Gantrez ES-435 polymer      | Butyl Ester of PVM/MA Copolymer   | 50% solids in isopropanol   | ![Structure](image7.png) |                                                                       |                                    |                     |
| Gantrez SP-215 polymer      | Ethyl Ester of PVM/MA Copolymer   | 50% solids in ethanol       | ![Structure](image8.png) |                                                                       |                                    |                     |
| Omnirez™ 2000 polymer       | Ethyl Ester of PVM/MA Copolymer   | 50% solids ethanol          | ![Structure](image9.png) | - Suitable for low-VOC and anhydrous products  
  - High hold  
  - Excellent shine  
  - Durability  
  - Tack-free  
  - Good style retention  
  - Humidity resistant  
  - Good propellant compatibility  
  - Low solution viscosity | Aerosol hairsprays  
  - Non-aerosol hairsprays  
  - Mousses  
  - Pomades, waxes, pastes | 0.5 – 8.0% solids |
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| Primaflo™ HP22 polymer      | Hydroxypropylcellulose solution | Solution | ![Structure](image) | - Soft, flexible films  
- High strength films  
- Non-tacky films | - Low- and no-VOC hair styling gels, mousses and sprays | 2.0 – 5.0% solids |
| PVP K-15                    | PVP           | 100% powder; 8000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 6.0% solids |
| PVP K-15 solution           | PVP           | 30% solution; 8000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 6.0% solids |
| PVP K-30                    | PVP           | 100% powder; 60,000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 6.0% solids |
| PVP K-30 solution           | PVP           | 30% solution; 60,000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 6.0% solids |
| PVP K-60 solution           | PVP           | 45% solution; 400,000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 6.0% solids |
| PVP K-90                    | PVP           | 100% powder; 1,300,000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 3.0% solids |
| PVP K-90 solution           | PVP           | 20% solution; 1,300,000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 3.0% solids |
| PVP K-120 powder            | PVP           | 100% powder; 3,000,000 avg. MW in Daltons | ![Structure](image) | - Strong, stiff hold  
- Stabilizes emulsions, dispersions and suspensions  
- Foam stabilizer  
- Excellent compatibility with acrylate thickeners  
- Shine | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes  
- In addition, PVP K-15 and PVP K-30 can be used in hairsprays | 0.25 – 3.0% solids |

‡ Ratio (VP/VA)
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| PVP/VA S-630 | VP/VA Copolymer | White powder (60/40<sup>‡</sup>) | ![Structure](#) | - Strong, stiff hold  
- Enhanced high humidity curl retention  
- Good propellant compatibility | - Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes | 0.5 – 6.0% solids |
| PVP/VA E-335  
PVP/VA I-335 |  | 50% solution in ethanol (E) or isopropanol (I), (30/70<sup>‡</sup>) | ![Structure](#) | - Aerosol hairsprays  
- Non-aerosol hairsprays | - Hydroalcoholic styling lotions and hair thickeners |  |
| PVP/VA E-535  
PVP/VA I-535 |  | 50% solution in ethanol (E) or isopropanol (I), (50/50<sup>‡</sup>) | ![Structure](#) |  |  |
| PVP/VA E-635  
PVP/VA W-635 | VP/VA Copolymer | 50% solution in water (W), ethanol (E) or isopropanol (I) (60/40<sup>‡</sup>) | ![Structure](#) | - “Wet look” gels  
- Water-based aerosol mousses  
- (E) & (I) used in anhydrous aerosols  
- (W) in alcohol-free formulas  
- Gels  
- Mousses  
- Styling creams/lotions  
- Hair colorants  
- Pomades, waxes, pastes | 0.5 – 6.0% solids |
| PVP/VA E-735  
PVP/VA I-735  
PVP/VA W-735 |  | 50% solution in water (W), ethanol (E) or isopropanol (I) (70/30<sup>‡</sup>) | ![Structure](#) |  |  |

‡ Ratio (VP/VA)
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<tr>
<td>Styleze CC-10</td>
<td>VP/DMA Acrylates Copolymer</td>
<td>10% aqueous</td>
<td><img src="" alt="Structure" /></td>
<td>- Superior, durable hold&lt;br&gt;- Clear, non-tacky films&lt;br&gt;- Long-lasting curl retention&lt;br&gt;- Substantive to hair&lt;br&gt;- Conditioning and bodying effects&lt;br&gt;- Shine&lt;br&gt;- Manageability&lt;br&gt;- Clean feel&lt;br&gt;- Thermal protection&lt;br&gt;- Volumizing effects in shampoos&lt;br&gt;- Forms a sprayable polyelectrolyte matrix when used in conjunction with one of the following rheology modifiers (Ashland 980/940 Carbomer, RapiThix A-60)</td>
<td>- Gels&lt;br&gt;- Mousses&lt;br&gt;- Styling creams/lotions&lt;br&gt;- Pomades, waxes, pastes&lt;br&gt;- Styling sprays (non-aerosol)&lt;br&gt;- Shampoos&lt;br&gt;- Conditioners</td>
<td>Styling: 0.25 – 2.0% solids&lt;br&gt;Shampoos/Conditioners: 0.5 – 1.0% solids</td>
</tr>
<tr>
<td>Styleze™ W-10</td>
<td>Polyquaternium-55</td>
<td>10% aqueous</td>
<td><img src="" alt="Structure" /></td>
<td>- Firm hold&lt;br&gt;- Longevity of style&lt;br&gt;- High humidity resistance&lt;br&gt;- High flexibility&lt;br&gt;- Conditioning&lt;br&gt;- Low-tack&lt;br&gt;- Volume&lt;br&gt;- Color protection&lt;br&gt;- Thermal protection&lt;br&gt;- Forms a sprayable polyelectrolyte matrix when used in conjunction with one of the following rheology modifiers (Ashland 980/940 Carbomer, RapiThix A-60, Stabileze SM)</td>
<td>- Gels&lt;br&gt;- Mousses&lt;br&gt;- Styling creams/lotions&lt;br&gt;- Leave-in conditioners&lt;br&gt;- Pomades, waxes, pastes&lt;br&gt;- Styling sprays (non-aerosol)&lt;br&gt;- Shampoos&lt;br&gt;- Conditioners</td>
<td>Gels, Mousses, Lotions: 0.25 – 2.0% solids&lt;br&gt;Shampoos/Conditioners: 0.25 – 1.0% solids</td>
</tr>
<tr>
<td>Styleze W-17</td>
<td>Water (and) PVM/MA Copolymer (and) Polyimide-1 (and) Caprylyl Glycol</td>
<td>17% aqueous</td>
<td><img src="" alt="Structure" /></td>
<td>- Frizz reduction&lt;br&gt;- Enhances thermal styling, straight or curly&lt;br&gt;- Thermal protection&lt;br&gt;- Humidity resistance&lt;br&gt;- Shine&lt;br&gt;- Smooth, touchable hair&lt;br&gt;- Lively, flowable texture&lt;br&gt;- Lasting style hold&lt;br&gt;- Smooth combing&lt;br&gt;- Enhances hair’s natural texture&lt;br&gt;- Improved hair alignment/manageability</td>
<td>- Styling creams/lotions&lt;br&gt;- Gels&lt;br&gt;- Mousses&lt;br&gt;- Lotions</td>
<td>4.0% solids (13.5% as is)</td>
</tr>
<tr>
<td>Styleze W-20</td>
<td>Water (and) PVM/MA Copolymer (and) Polyimide-1 (and) Caprylyl Glycol</td>
<td>20% aqueous</td>
<td><img src="" alt="Structure" /></td>
<td>- Frizz reduction&lt;br&gt;- Enhances thermal styling, straight or curly&lt;br&gt;- Thermal protection&lt;br&gt;- Humidity resistance&lt;br&gt;- Shine&lt;br&gt;- Smooth, touchable hair&lt;br&gt;- Lively, flowable texture&lt;br&gt;- Lasting style hold&lt;br&gt;- Smooth combing&lt;br&gt;- Enhances hair’s natural texture&lt;br&gt;- Improved hair alignment/manageability</td>
<td>- Styling creams/lotions&lt;br&gt;- Gels&lt;br&gt;- Mousses&lt;br&gt;- Lotions</td>
<td>4.0% solids (13.5% as is)</td>
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| AquaCat 518 cationic solution | Guar Hydroxypropyltrimonium Chloride          | Clear solution    | ![Structure](structure1.png) | - Light conditioning  
- Volumizing                                                                 | - Volumizing shampoos  
- Daily shampoos                                      | 0.2 – 0.4% |
| AquaCat PF 618 cationic solution | Guar Hydroxypropyltrimonium Chloride          | Clear solution    | ![Structure](structure2.png) | - Paraben-free  
- Light conditioning  
- Volumizing                                                                 | - Volumizing shampoos  
- Daily shampoos                                      | 0.2 – 0.4% |
| Conditionze™ 7MP cationic solution | Polyquaternium-7                             | 8.0 - 10% aqueous solution | ![Structure](structure3.png) | - Efficient conditioning at low concentrations  
- Binds to skin and hair keratin at multiple sites  
- Imparts slip and lubricity to formulations  
- Boosts viscosity with increasing concentration  
- Provides foam stability in shampoos  
- Shampoos  
- Conditioners  
- Styling creams  
- Mousse  
- Hair dyes  
- Permanent wave solutions                                                                 | 0.2 – 0.75% solids                                      |
| Conditionze™ 22 cationic solution | Polyquaternium-22                            | Clear solution    | ![Structure](structure4.png) | - Compatible with a wide range of anionic, nonionic and cationic surfactants  
- Stable over a wide pH range (pH 2-12)  
- Provides excellent conditioning, wet and dry combability  
- Leaves hair feeling soft and silky and contributes to luster.  
- Leaves a smooth and silky feel in skin care products  
- Preserved with methyl and propyl parabens  
- Shampoos  
- Conditioners  
- Formulated especially for damaged and treated hair  
- Colorant products  
- Ethnic hair care products                                                                 | 1.0 – 3.0 %                                      |
| Conditionze 37 PC (E) cationic solution | Polyquaternium-37 Glycol Dicaprylate/Dicaprate and PPG-1 Trideceth-6 | Opaque liquid    | ![Structure](structure5.png) | - Provides excellent conditioning and emulsion stabilization in hair and skin products  
- Easy to incorporate into formulations with no requirements for heating or neutralization  
- Compatible with nonionic and cationic surfactants  
- Efficiently build viscosity at low usage levels even at low pH levels  
- Conditioners  
- Hair masks  
- Rheology                                                                 | 2.0 – 4.0 %                                      |
| Conditionze 37 PC (M) cationic solution | Polyquaternium-37 and propylene Glycol Dicaprylate/Dicaprate and PPG-1 Trideceth-6 | Opaque liquid    | ![Structure](structure6.png) | - Provides excellent conditioning and emulsion stabilization in hair and skin products  
- Easy to incorporate into formulations with no requirements for heating or neutralization  
- Compatible with nonionic and cationic surfactants  
- Efficiently build viscosity at low usage levels even at low pH levels  
- Conditioners  
- Hair masks  
- Rheology                                                                 | 2.0 – 4.0 %                                      |
<table>
<thead>
<tr>
<th>Trade Name</th>
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</tr>
</thead>
</table>
| Conditioneze NT-20 cationic solution | Polyquaternium-28 | 20% aqueous solution | ![Structure](image1.png) | - Excellent wet and dry combing  
- Builds creamy, rich lather  
- Imparts body and manageability without build-up  
- Cold processable | - Shampoos  
- Conditioners  
- Styling creams/lotions  
- Gels  
- Mousses  
- Pomades, waxes, pastes  
- Permanent wave solutions | Shampoos/Conditioners: 0.25 – 1.0% solids  
Styling: 2.0 – 4.0% solids |
| Conditioneze NT-20-0 cationic solution (Optiphen™ preserved) | Polyquaternium-28 and Dimethicone | 20% aqueous solution | ![Structure](image2.png) | - Combines benefits of film-forming polymers and dimethicone while minimizing drawbacks associated with silicones such as greasy feel and build-up  
- Conditioning  
- Compatible with anionic surfactants  
- Stabilizes foam  
- Good storage stability | - Shampoos  
- Conditioners  
- Conditioning treatments  
- Gels  
- Mousses  
- Pomades, waxes, pastes | Styling: 1.0 – 2.0% solids  
Shampoos/Conditioners: 0.2 – 1.0% solids |
| Gafquat™ HSi cationic solution | Polyquaternium-28 (and) Dimethicone | 20% aqueous solution | ![Structure](image3.png) | - High conditioning durability  
- No build-up  
- Preservative free  
- Compatible with cationics and nonionics | - Leave-on and rinse-off conditioners  
- Hair masks  
- Conditioning sprays  
- Shampoos | 0.1 – 1.0% solids |
| N-DurHance™ A-1000 conditioning polymer | Polyacrylamidopropyltrimonium Chloride | Clear solution | ![Structure](image4.png) | - Excellent wet/dry combability in silicone and non-silicone formulations  
- Optical clarity  
- Fast detangling of hair  
- Leaves wet and dry hair noticeably silkier  
- High deposition of actives (silicone, anti-dandruff, natural oils, etc.) | - Ethnic hair products  
- Highly damaged/bleached/treated hair  
- Anti-dandruff shampoos  
- Silicone deposition | 0.1 – 0.2% |
<p>| N-Hance SP-100 polymer | Acrylamidopropyl trimonium Chloride/ Acrylamide Copolymer | Powder | <img src="image5.png" alt="Structure" /> | - | - | 0.15 – 0.25% |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
</table>
| N-Hance™ BF17 cationic guar | Guar Hydroxypropyl-trimonium Chloride | Powder | | - High conditioning, wet and dry combing  
- Active deposition aid  
- Efficient silicone deposition  
- Softer hair feel  
- Lather richness | - Shampoos/2-in-1 shampoos for  
- Ethnic hair  
- Highly damaged/bleached/treated hair  
- Silicone deposition  
- Anti-dandruff shampoos | | 0.2 – 0.4% |
<p>| N-Hance 3215 cationic guar | | | | | | |
| N-Hance 3196 cationic guar | | | | | | |
| N-Hance™ BF13 cationic guar | | | | | | |
| N-Hance CG13 cationic guar | | | | | | |
| N-Hance CCG45 cationic guar | | | | | | |</p>
<table>
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<th>Use Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Hance 3000/3299 cationic guar</td>
<td>Ashland™ 980/940/981/941 Carbomer</td>
<td>Powder</td>
<td>- Low viscosity - Low conditioning</td>
<td>- Shampoos - Styling products</td>
<td>0.2 – 0.5%</td>
<td></td>
</tr>
<tr>
<td>N-Hance C261 cationic guar</td>
<td>Benecel™ HPMC</td>
<td>Powder</td>
<td>- Low viscosity - Low conditioning - Self hydrating</td>
<td>- Shampoos - Styling products</td>
<td>0.5 – 2.0%</td>
<td></td>
</tr>
<tr>
<td>N-Hance C261N cationic guar</td>
<td>Benecel K200M HPMC</td>
<td>Powder</td>
<td>- Low viscosity - Low conditioning</td>
<td>- Shampoos - Styling products</td>
<td>0.2 – 0.4%</td>
<td></td>
</tr>
</tbody>
</table>

**Rheology Modifiers**

<table>
<thead>
<tr>
<th>Trade Name</th>
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<th>Applications</th>
<th>Use Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashland™ 980/940/981/941 Carbomer</td>
<td>Ashland™ 980/940/981/941 Carbomer</td>
<td>Powder</td>
<td>- Rheology modifier - Stabilization</td>
<td>- Shampoos - Styling products</td>
<td>0.2 – 0.5%</td>
<td></td>
</tr>
<tr>
<td>Benecel™ HPMC</td>
<td>Benecel™ HPMC</td>
<td>Powder</td>
<td>- Stabilizes complex surfactant mixtures - Increases lather density - Increases lather volume - Increases lather stability - Thickens soap-based shampoos - Benecel K200M HPMC thickens hydroalcoholic systems</td>
<td>- Shampoos - Styling products</td>
<td>0.5 – 2.0%</td>
<td></td>
</tr>
<tr>
<td>Benecel E10 HPMC</td>
<td>Benecel E10 HPMC</td>
<td>Powder</td>
<td>- Alcohol-soluble thickener - Film-former</td>
<td>- Styling products</td>
<td>0.2 – 1.0%</td>
<td></td>
</tr>
<tr>
<td>Benecel K200M HPMC</td>
<td>Benecel K200M HPMC</td>
<td>Powder</td>
<td>- Viscosity builder - Stabilization</td>
<td>- Conditioners - Styling products</td>
<td>0.2 – 1.0%</td>
<td></td>
</tr>
<tr>
<td>Klucel™ hydroxypropylcellulose</td>
<td>Klucel™ hydroxypropylcellulose</td>
<td>Powder</td>
<td>- Alcohol-soluble thickener - Film-former</td>
<td>- Styling products</td>
<td>0.2 – 1.0%</td>
<td></td>
</tr>
<tr>
<td>Natrosol™ hydroxyethylcellulose/ Natrosol 250 ME/HR/HHR</td>
<td>Natrosol™ hydroxyethylcellulose/ Natrosol 250 ME/HR/HHR</td>
<td>Powder</td>
<td>- Alcohol-soluble thickener - Film-former</td>
<td>- Styling products</td>
<td>0.2 – 1.0%</td>
<td></td>
</tr>
<tr>
<td>Trade Name</td>
<td>INCI Name</td>
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</tbody>
</table>
| Natrosol™ Plus 330 CS | Cetyl Hydroxyethylcellulose   | Powder                                 | ![Structure](attachment:image.png) | - Provides stability for complex anionic, cationic or nonionic surfactant systems  
- Thickens cationic emulsions  
- Can be post-added to adjust viscosity after emulsion forms and cools  
- Produces instant crème gels at room temperature  
- High shear not required | Shampoos  
Conditioners  
Styling products  
Natrosol Plus 330 CS can be used in APG-based systems | 0.5 – 1.5% |
| PolySurf™ 67          |                               |                                        | ![Structure](attachment:image.png) | - Easy-to-use emollient-based dispersion  
- Provides soft, smooth feel  
- Can be post-added to adjust viscosity after emulsion forms and cools  
- Produces instant crème gels at room temperature  
- High shear not required | Emulsifier-free products  
Hair shine lotions  
Anti-frizz products  
Styling creams/lotions  
Conditioning creams  
Pomades, waxes, pastes | Up to 3.6% solids |
| RapiThix A-60         | Sodium Polyacrylate (and) Hydrogenated Polydecene (and) Trideceth-6 | White milky dispersion (57-59% solids) | ![Structure](attachment:image.png) | - Fully active white powder offering greater formulation flexibility  
- Provides soft, smooth feel  
- No pre-set oil phase  
- Makes oil-free systems possible  
- High-solids content for higher efficiency | Emulsifier-free products  
Hair shine lotions  
Anti-frizz products  
Styling creams/lotions  
Conditioning creams  
Pomades, waxes, pastes | 0.2 – 2.5% |
| RapiThix A-100        | Sodium Polyacrylate           | White powder                           | ![Structure](attachment:image.png) | - Self-wetting rheology modifier with improved electrolyte tolerance  
- Improved suspension in surfactant based system  
- Hydroalcoholic systems | Shampoos  
2 in 1 shampoos  
Body washes  
Styling creams  
Gels  
Lotions | 0.2 – 1.5% |
| Ultrathix™ 20         | Acrylates/C10-30 Alkyl Acrylate Crosspolymer | Powder                                 | ![Structure](attachment:image.png) | - Self-wetting rheology modifier with improved electrolyte tolerance  
- Improved suspension in surfactant based system  
- Hydroalcoholic systems | Styling creams  
Gels  
Lotions  
Shampoos  
Hand sanitizers | 0.2 – 1.5% |
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Ceraphyl™ 60 cationic solution</td>
<td>Quaternium-22</td>
<td>60% aqueous solution</td>
<td><img src="image" alt="Structure" /></td>
<td>- Mild cationic with pronounced substantivity to hair - Provides detangling, anti-static and conditioning - Binds moisture in hair care applications</td>
<td>Shampoos - Conditioners - Gels - Mousses</td>
<td>Up to 4.8% solids</td>
</tr>
<tr>
<td>Ceraphyl 65 cationic solution</td>
<td>Quaternium-26 (and) Propylene Glycol</td>
<td>55% solution</td>
<td><img src="image" alt="Structure" /></td>
<td>- Mild cationic with pronounced substantivity to hair - Provides detangling, anti-static and conditioning - Cationic emulsification</td>
<td>Shampoos - Conditioners</td>
<td>Up to 5.0% (rinse-off application only)</td>
</tr>
<tr>
<td>Ceraphyl 70 cationic solution</td>
<td>Quaternium-70 (and) Propylene Glycol</td>
<td>54% solution</td>
<td><img src="image" alt="Structure" /></td>
<td>- Mild cationic - Pronounced substantivity to skin and hair - Provides detangling, anti-static and conditioning - Cationic emulsification - Thermal protection from curling irons &amp; blow dryers</td>
<td>Shampoos - Conditioners - Mousses - Cream gels - Pomades, waxes, pastes - Permanent wave solutions</td>
<td>1.0% solids for thermal protection Up to 0.7% solids for rinse-off applications</td>
</tr>
<tr>
<td>Trade Name</td>
<td>INCI Name</td>
<td>Description/ Form</td>
<td>Structure</td>
<td>Features and Benefits</td>
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</tr>
</tbody>
</table>
| ProLipid™ 161 lamellar gel¹ | Cetearyl Alcohol (and) Behenyl Alcohol (and) Hydroxyethyl Cetearamidopropyldim-onium Chloride | White to cream colored flakes | ![Chemical Structure](image1.png) | - Composed of vegetal-based amphiphilic compounds  
- Lamellar gel structurizing ingredient that enhances formulation texture and stability  
- Provides moisturization and conditioning to hair  
- Ease of wet and dry combing  
- Makes hair feels soft and smooth  
- Binder  
- Thickener  
- Opacifying agent  
- Anti-static  
- Substantive over a broad pH range | - Shampoos  
- Conditioners  
- Styling creams/ lotions  
- Mousses  
- Treatment applications targeting damaged and chemically treated hair  
- Hair colorants  
- Pomades, waxes, pastes  
- Permanent wave solutions  
- Hair relaxers | 1.67 – 6.67% by weight when used for conditioning  
4.0 – 6.0% by weight when used as a structuring agent |
| Zenix™ 4617 phosphate ester surfactant | Oleth-5 Phosphate                                                                 | Liquid             | ![Chemical Structure](image2.png) | - Silicone-like performance without silicone when combined with cationic guar | - Shampoos  
- 2-in-1 shampoos | 2.0 – 4.0% |

**Vincience™ BiotHAIRe™ Biofunctionals**

<table>
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<tr>
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</tr>
</thead>
</table>
| Capauxein™ biofunctional | Water (aqua) (and) Glycerin (and) Hydrolyzed Corn Protein | A corn extract inspired by the "Hair Fullness System™" critical for hair density | - Associated with ex vivo increase of proteins related to the improvement of communication and cell signaling such as laminin-5, β1 integrin and fibronectin  
- Associated with ex vivo increase of proteins involved in the maintenance of active cell cycle (p63, ki67)  
- Associated ex vivo with an improved appearance of hair length (on scalp model) |
| Chromafend™ biofunctional | Water (aqua) (and) Glycerin (and) Hydrolyzed Linseed Extract | A flax seed extract inspired by the "Hair Melanin System™" to help hair preserve its original color | - Associated in vitro, ex vivo with an increase of tyrosinase (tyrosinase is involved in melanin production)  
- Associated with the in vitro increase in TRP-1 (TRP-1 is known to participate in melanin synthesis)  
- Associated with in vitro increase in Pmel 17 (Pmel 17 is associated with favorable conditions for melanin synthesis)  
- Associated with an in vitro increase of MITF (MITF is known to regulate melanin synthesis)  
- Associated with an in vitro increase of c-kit (c-kit is associated with melanin process)  
- Associated with an in vitro increase of PAR-2 (PAR-2 helps transfer melanin into keratinocytes)  
- Ex vivo, Chromafend is associated with an increase of the melanin in the hair cortex |
### Hair Care Overview Guide

<table>
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</table>
| Dynagen™ biofunctional | Water (aqua) (and) Glycerin (and) Hydrolyzed Yeast Protein | A yeast extract inspired by the “Hair Keratin System™” for stronger and healthier looking hair                                      | - Consumer-perceivable benefit for stronger, thicker, healthier hair feel (in vivo)  
- Associated with ex vivo increase in key protein markers, keratin 14, keratin 17, keratin 71, trichohyalin, all of which are associated with minimization of hair fall  
- Associated with ex vivo increase in collagen I  
- Associated with ex vivo increase in collagen IV and CD34 (both of these compounds are associated with healthy appearance of the hair) |
| Procataline™ biofunctional | Water (aqua) (and) Glycerin (and) Pisum Sativum (pea) Extract | A pea extract inspired by the "Hair Detox System™" for healthier, younger looking hair                                      | - Associated ex vivo with an increase of catalase enzyme expression (a decrease in catalase activity is associated with environmental damage and hair aging)  
- Associated ex vivo with a maintenace of p63 expression in stress conditions (p63 is associated with cell regeneration and is shown to be related to hair growth)  
- Associated with a decrease of caspase-3 expression in stress conditions (caspases play a critical role in apoptosis) (ex vivo)  
- Ex vivo, Procataline is associated with reduced signs of aging induced by H₂O₂ stress, such as maintenance of the melanin in the hair cortex |
| Protectagen™ biofunctional | Water (aqua) (and) Glycerin (and) Hydrolyzed Rice Protein | A rice extract inspired by the “Hair Stemness System™” to mitigate stress and preserve hair growth capital                       | - Associated with an increase in stem cells markers, key to the maintenance of hair growth capital  (keratin 15, α6-integrin, β-Catenin and p63) (ex vivo)  
- May help preserve hair follicle against harmful UV damage, evidenced by the lower expression of p53 markers (ex vivo)  
- Associated ex vivo with an improved appearance of hair length |

Note: In the U.S. hair growth and hair loss prevention claims fall under an OTC drug monograph 21CFR Part 310. Use of these claims requires a New Drug Application. Similar restrictions may exist in other parts of the world.

### Hair care product categories

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>INCI Name</th>
<th>Hair Aging at the Roots</th>
<th>Hair Strength</th>
<th>Hair Nourishment</th>
<th>UV Stress</th>
<th>Oxidative Stress</th>
<th>Hair Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capauxein™ biofunctional</td>
<td>Water (aqua) (and) Glycerin (and) Hydrolyzed Corn Protein</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromafend™ biofunctional</td>
<td>Water (aqua) (and) Glycerin (and) Hydrolyzed Linseed Extract</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Dynagen™ biofunctional</td>
<td>Water (aqua) (and) Glycerin (and) Hydrolyzed Yeast Protein</td>
<td>● ●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● ●</td>
</tr>
<tr>
<td>Procataline™ biofunctional</td>
<td>Water (aqua) (and) Glycerin (and) Pisum Sativum (pea) Extract</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td>● ●</td>
<td>● ●</td>
</tr>
<tr>
<td>Protectagen™ biofunctional</td>
<td>Water (aqua) (and) Glycerin (and) Hydrolyzed Rice Protein</td>
<td>●</td>
<td></td>
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<td></td>
<td></td>
<td>●</td>
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</tbody>
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Note: In the U.S. hair growth and hair loss prevention claims fall under an OTC drug monograph 21CFR Part 310. Use of these claims requires a New Drug Application. Similar restrictions may exist in other parts of the world.
### UV Protectants

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</tr>
</thead>
<tbody>
<tr>
<td>Escalol™ HP</td>
<td>DimethylPABAmidopropyl Laurdimonium Tosylate</td>
<td>100% active powder, Creamy waxy solid</td>
<td></td>
<td>- Protects hair from UV light</td>
<td>- Gels, - Mousses, - Styling sprays, - Serums, - Hair treatment, - Pomades, waxes, pastes</td>
<td>0.1 – 0.5% solids</td>
</tr>
<tr>
<td>Escalol HP 610 UV</td>
<td>DimethylPABAmidopropyl Laurdimonium Tosylate (and) Water (and) Propylene Glycol Stearate</td>
<td></td>
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</table>

### Preservatives

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Germaben™ II</td>
<td>Propylene Glycol (and) Diazolidinyl Urea (and) Methylparaben (and) Propylparaben</td>
<td>Clear liquid</td>
<td></td>
<td>- Broad-spectrum activity against gram-positive and gram-negative bacteria, yeast and mold</td>
<td>- Shampoos, - Conditioners, - Mousses, - Creams, - Pomades, waxes, pastes</td>
<td>0.5 – 1.0%</td>
</tr>
<tr>
<td>Germaben II-E</td>
<td></td>
<td></td>
<td></td>
<td>- Very effective against gram-positive and gram-negative bacteria, acts synergistically with other preservatives, effective over broad pH range: 3 – 9</td>
<td></td>
<td>0.2 – 0.6%</td>
</tr>
<tr>
<td>Germall™ 115</td>
<td>Imidazolidinyl Urea</td>
<td>White, free-flowing hygroscopic powder</td>
<td></td>
<td>- Broad-spectrum activity against gram-positive and gram-negative bacteria</td>
<td>- Shampoos, - Conditioners, - Gels</td>
<td>0.1 – 0.3%</td>
</tr>
<tr>
<td>Germall II</td>
<td>Diazolidinyl Urea</td>
<td>White, free-flowing hygroscopic powder</td>
<td></td>
<td>- Broad-spectrum activity against gram-positive and gram-negative bacteria, acts synergistically with other preservatives, effective over broad pH range: 3 – 9</td>
<td>- Shampoos, - Conditioners, - Gels</td>
<td>0.05 – 0.2%</td>
</tr>
<tr>
<td>Germall™ Plus</td>
<td>Diazolidinyl Urea (and) Iodopropynyl Butylcarbamate</td>
<td>White, free-flowing hygroscopic powder</td>
<td></td>
<td>- Broad-spectrum antimicrobial activity, effective over broad pH range: 3 – 8</td>
<td>- Shampoos, - Conditioners, - Gels</td>
<td></td>
</tr>
</tbody>
</table>

† For country-specific details, please contact your account manager
<table>
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<th>Use Levels</th>
</tr>
</thead>
</table>
| Liquid Germall Plus preservative<sup>1</sup> | Propylene Glycol (and) Diazolidinyl Urea (and) Iodopropynyl Butylcarbamate | Clear liquid      | ![image](image1.png) | - Broad-spectrum antimicrobial activity  
- Effective over broad pH range: 3 – 8 | - Shampoos  
- Conditioners  
- Gels  
- Styling creams/ lotions | 0.1 – 0.5% |
| LiquaGard™ preservative                   | Butylene Glycol (and) Iodopropynyl Butylcarbamate                        | Liquid            | ![image](image2.png) | - Effective fungicide  
- Works over wide pH range: 4 – 9  
- Compatible with broad range of raw materials including surfactants and proteins | - Shampoos  
- Conditioners  
- Styling creams/ lotions  
- Hair colorants  
- Gels | 0.1 – 0.2%<sup>1</sup> |
| LiquaPar™ ME preservative (Available in EU, LA, AP) | Phenoxyethanol (and) Methylparaben (and) Ethylparaben (and) Caprylyl Glycol | Colorless to light brown solution | ![image](image3.png) | - Provides similar efficiency to traditional paraben combinations  
- Effective over broad pH range: 3.0 – 7.5  
- Global use<sup>†</sup> | - Styling creams/ lotions  
- Anhydrous systems | 0.5 – 1.0% |
| LiquaPar™ MEP preservative (sold as Rokonsal™ MEP preservative in EU) | Phenoxyethanol (and) Methylparaben (and) Ethylparaben (and) Propylparaben | Clear, yellowish solution | ![image](image4.png) | - Broad-spectrum activity against bacteria, yeast and mold  
- Effective over broad pH range: 3.0 – 7.5  
- Global use<sup>†</sup> | - Shampoos  
- Conditioners  
- Anhydrous systems | 0.3 – 1.0% |

† For country-specific details, please contact your account manager
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</tr>
</thead>
<tbody>
<tr>
<td>LiquaPar Oil</td>
<td>Isopropylparaben (and)</td>
<td>Clear liquid</td>
<td><img src="image1.png" alt="Structure" /></td>
<td>- Solvent-free</td>
<td>- Anhydrous systems</td>
<td>0.4 – 0.8%</td>
</tr>
<tr>
<td></td>
<td>Isobutylparaben (and)</td>
<td></td>
<td></td>
<td>- Effective against gram-positive bacteria, yeast and mold</td>
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<tr>
<td></td>
<td>n-Butylparaben</td>
<td></td>
<td></td>
<td>- Effective over broad pH range: 3.0 – 7.5</td>
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<td></td>
<td>- Global use†</td>
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<tr>
<td>Optiphen 200</td>
<td>Propylene Glycol (and)</td>
<td>Clear liquid</td>
<td><img src="image2.png" alt="Structure" /></td>
<td>- Broad-spectrum activity against gram-positive and gram-negative bacteria, yeast and mold</td>
<td>- Shampoos</td>
<td>0.5 – 1.0%</td>
</tr>
<tr>
<td></td>
<td>Diazolidinyl Urea (and)</td>
<td></td>
<td></td>
<td>- Effective over broad pH range: 3.0 – 7.5</td>
<td>- Conditioners</td>
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<tr>
<td></td>
<td>Methylparaben</td>
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<td>- Gels</td>
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<td>- Creams</td>
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<td>- Pomades, waxes, pastes</td>
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<tr>
<td>Optiphen™</td>
<td>Phenoxyethanol (and) Capryl Glycol</td>
<td>Clear to pale straw liquid [EU: Colorless to light yellow solution]</td>
<td><img src="image3.png" alt="Structure" /></td>
<td>- Broad-spectrum activity against bacteria, yeast and mold – additional fungicidal protection may be needed in difficult formulations</td>
<td>- Shampoos</td>
<td>0.75 – 1.5%</td>
</tr>
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<td>- Effective over broad pH range: 4 – 8</td>
<td>- Conditioners</td>
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<td>- Styling creams/lotions</td>
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</table>
| Optiphen Plus preservative†     | Phenoxyethanol (and) Caprylyl Glycol (and) Sorbic Acid                     | Clear to pale straw liquid ([EU: Colorless to light yellow solution])              | ![Chemical Structure](image1)                                               | - Broad spectrum activity against bacteria, yeast and mold  
- Ideal for slightly acidic personal care products  
- Effective pH range up to 6.0  
- Global use†  
- Mousses  
- Shampoos  
- Conditioners  
- Pomades, waxes, pastes | 0.75 – 1.5%                                                                 |           |
| Optiphen BD preservative         | Benzyl Alcohol (and) Benzoic Acid (and) Dehydroacetic Acid                 | Colorless to light yellow solution                                                | ![Chemical Structure](image2)                                               | - Microbiostatic spectrum of activity against bacteria, mold and yeast  
- Effective up to pH 6.4  
- Global use†  
- Nature-identical combination  
- Ecocert-compliant | Styling creams/lotions  
- Shampoos  
- Conditioners | 0.3 – 1.0%                                                                 |
| Optiphen BSB-N preservative     | Benzyl Alcohol (and) Glycerin (and) Benzoic Acid (and) Sorbic Acid         | Colorless light brown liquid                                                      | ![Chemical Structure](image3)                                               | - Effective against gram-positive and gram-negative bacteria, yeast and mold  
- Effective up to pH 5.4  
- Global use†  
- Nature-identical combination  
- Ecocert-compliant | Shampoos  
- Conditioners  
- Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.3 – 1.0%                                                                 |
| Optiphen BSP [Sold as Rokonsal BSP preservative in EU] | Phenoxyethanol (and) Propylene Glycol (and) Benzoic Acid (and) Sorbic Acid | Colorless light brown liquid                                                      | ![Chemical Structure](image4)                                               | - Effective against gram-positive and gram-negative bacteria, yeast and mold  
- Effective up to pH 5.4  
- Global use†  
- Nature-identical combination | Shampoos  
- Conditioners  
- Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.3 – 1.0%                                                                 |
| Optiphen BSB-W preservative     | Benzy1 Alcohol (and) Water (aqua) (and) Sodium Benzoate (and) Potassium Sorbate | Colorless light brown liquid                                                      | ![Chemical Structure](image5)                                               | - Effective against gram-positive and gram-negative bacteria, yeast and mold  
- Effective up to pH 5.4  
- Global use†  
- Nature-identical combination  
- Ecocert-compliant | Shampoos  
- Conditioners  
- Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.3 – 1.0%                                                                 |
| Optiphen MIT preservative       | Methylisothiazolinone and Water (aqua)                                     | Colorless to light yellow solution                                                | ![Chemical Structure](image6)                                               | - Mainly effective against gram-positive and gram-negative bacteria  
- Effective between pH 2 – 10  
- Global use† | Shampoos  
- Conditioners  
- Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.05 – 0.1%                                                                 |

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</table>
| Optiphen™ MIT Plus preservative²  | Methylisothiazolinone (and) Phenethyl Alcohol (and) PPG-2- Methyl Ether and water (Aqua) | Colorless to light yellow solution      | ![Structure](image1.png) | - Broad-spectrum activity against bacteria, yeast and mold  
- Effective between pH 2 – 10  
- Global use¹ | - Shampoos  
- Conditioners  
- Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.05 – 0.2% |
| Optiphen™ MIT Ultra preservative² | Methylisothiazolinone (and) Phenylpropanol (and) Propylene Glycol (and) Water (aqua) | Colorless to light yellow solution      | ![Structure](image2.png) | - Broad-spectrum activity against bacteria, yeast and mold  
- Effective between pH 2 – 10  
- Global use¹ | - Shampoos  
- Conditioners  
- Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.05 – 0.3% |
| Optiphen ND preservative          | Phenoxyethanol (and) Benzoic Acid (and) Dehydroacetic Acid                  | Light yellow to yellow solution         | ![Structure](image3.png) | - Microbiostatic spectrum of activity against bacteria, mold and yeast  
- Effective up to pH 6.4  
- Global use¹ | - Shampoos  
- Conditioners  
- Creams  
- Pomades, waxes, pastes | 0.3 – 1.0% |
| Rokonsal™ LJ-1 preservative       | Benzyl Alcohol (and) 2-Bromo-2-Nitropropane-1,3-Dial (and) Iodopropynyl Butylcarbamate (and) Deceth-8 (and) PPG-2 Methyl Ether | Colorless to light brown solution       | ![Structure](image4.png) | - Broad-spectrum activity against bacteria, with enhanced performance against fungi and yeast  
- Fast-acting  
- Effective up to pH 7.0 max.  
- Global use¹ | - Shampoos  
- Conditioners  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.1 – 0.4%¹ |
| Rokonsal SE-2 preservative        | 2-Bromo-2-Nitropropane-1,3-Dial (and) Ethylparaben (and) Cetrimonium Bromide (and) PPG-2 Methyl Ether | Colorless to yellow solution            | ![Structure](image5.png) | - Broad-spectrum activity against bacteria, fungi and yeast  
- Fast-acting  
- Effective up to pH 7.0 max.  
- Global use¹ | - Shampoos  
- Conditioners  
- Styling creams/lotions | 0.1 – 0.3% |
| Rokonsal KS-4 preservative        | Benzyl Alcohol (and) Methylchloroisothiazolinone (and) Methylisothiazolinone (and) Propylene Glycol | Colorless to yellow solution            | ![Structure](image6.png) | - Broad spectrum activity against bacteria, yeast and mold  
- Fast-acting  
- Effective up to pH 8.0 max.  
- Global use¹ | - Shampoos  
- Conditioners | 0.05 – 0.12% |

¹ For country-specific details, please contact your account manager.
### Hair Care Overview Guide

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</table>
| Suttocide™ A preservative | Sodium Hydroxymethylglycinate | Clear to pale yellow solution                                                    | ![Structure](structure1.png) | - Broad-spectrum preservation  
- Long history of use for efficacy  
- Fast-acting  
- Effective pH: 3.5 – 12  
- Global use† | - Shampoos  
- Conditioners  
- Gels  
- Styling creams/lotions | 0.5 – 1.0% |

### Aromatics with Antimicrobial Properties

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</table>
| Conarom™ P aromatic | Phenethyl Alcohol (and) Caprylyl Glycol (and) Trideceth-8 | Nature-identical fragrance additive in glycolic solution | ![Structure](structure2.png) | - Aromatic ingredient that provides broad-spectrum protection  
- Mild rose-like aroma  
- Complements aroma of final product  
- Effective pH range: 4.0 – 8.0 | - Shampoos  
- Conditioners  
- Gels  
- Mousses  
- Styling creams/lotions  
- Pomades, waxes, pastes | 0.3 – 2.0% |

### Opacifiers/Pearlizers

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</tr>
</thead>
</table>
| Antara™ 430 polymer (Sold as Polectron™ in the USA) | Styrene/VP Copolymer | Fluid, milky white emulsion; 40% solids | ![Structure](structure3.png) | - Opacifier  
- Forms strong, light-stable films with high water resistance  
- High acid tolerance  
- Dye acceptor in hair color preparations | - Conditioners  
- Acid rinses  
- Permanent wave solutions  
- Gels  
- Hair colorants  
- Cream developers | Up to 1.0% solids |
| Cerasyn™ IP stearate ester | Glycol Stearate (and) Stearamide AMP | White to cream colored flakes | ![Structure](structure4.png) | - Imparts pearlescence and opacity | - Shampoos  
- Styling creams/lotions | Up to 2.0% solids |
| Cerasyn PA stearate ester | Propylene Glycol Stearate | White to cream colored flakes | ![Structure](structure5.png) | - Imparts pearlescence and opacity | - Shampoos  
- Styling creams/lotions | Up to 2.0% solids |
### Emulsifiers

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</table>
| Cerasynt™ 945 stearate ester | Glyceryl Stearate (and) Laureth-23 | Flake            | ![Structure](#) | - Nonionic primary emulsifier  
- High pH tolerance  
- Forms opaque gels with mineral oil                                                   | Hair straighteners  
- Styling creams/lotions  
- Conditioners                                                   | 1.0 – 3.0% |
| Cerasynt SD stearate ester | Glyceryl Stearate                   | Flake            | ![Structure](#) | - Nonionic auxiliary emulsifier  
- Emulsion stabilizer                                                                       | Styling creams/lotions  
- Conditioners                                                   | 0.25 – 3.0% |

### Emollients

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<th>Pomades, waxes, pastes</th>
</tr>
</thead>
</table>
| Ceraphyl™ 31 ester | Lauryl Lactate | Liquid        | ![Structure](#) | - Plasticizing and de-tackifying agent  
- Highly effective emolliency with lubricity  
- Improves product slip upon application                                           | 0.3 - 5.0% | ✖️ | ✖️ | ✖️ | ✖️ |
| Ceraphyl 41 ester | C12-15 Alkyl Lactate   | Liquid        | ![Structure](#) | - Effective de-tackifying agent  
- Spreads easily when applied  
- Dry initial feel with non-oily after-feel  
- Provides viscosity building and lather creaminess to shampoos                 | 0.3 - 5.0% | ✖️ | ✖️ | ✖️ | ✖️ |
<p>| Ceraphyl 50 ester | Myristyl Lactate | Soft solid    | <img src="#" alt="Structure" /> | - Imparts lubricity                                                                 | 0.3 - 5.0% | ✖️ | ✖️ | ✖️ | ✖️ |</p>
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</thead>
<tbody>
<tr>
<td>Ceraphyl™ 140A ester</td>
<td>Isodecyl Oleate</td>
<td>Liquid</td>
<td>H₂O [O] C₂H₁₇ - C-O-C-C₁₇₇ –CH=CH-C₂H₁₇</td>
<td>Excellent spreadability with dry initial feel - Drier feel than Ceraphyl 140 due to branching - Very little residual after-feel</td>
<td>0.3 - 5.0%</td>
<td>●</td>
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<tr>
<td>Ceraphyl 230 ester</td>
<td>Diisopropyl Adipate</td>
<td>Liquid</td>
<td>O CO (CH₂)₄ CO CH₃</td>
<td>Effective plasticizer and de-tackifier - Reduces greasiness of high-oil products - Spreads rapidly - Imparts dry initial feel with little to no residual after-feel - Coupling agent for hydroalcoholic preparations</td>
<td>0.3 - 5.0%</td>
<td>● ● ● ●</td>
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<tr>
<td>Ceraphyl 368M ester</td>
<td>Ethylhexyl Palmitate</td>
<td>Liquid</td>
<td>O CO (CH₂)₁₆ CO CH₃</td>
<td>Non-occlusive - Non-oily after-feel - Suitable mineral oil replacement for beach protection formulations - No impact on absorbance curves of UV actives</td>
<td>0.3 - 5.0%</td>
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<td>Ceraphyl 494 ester</td>
<td>Isocetyl Stearate</td>
<td>Liquid</td>
<td>O CO (CH₂)₁₂-C-O-(CH₂)₁₂-C-H₁₇</td>
<td>All-purpose lubricant which imparts dry, emollient feel</td>
<td>0.3 - 5.0%</td>
<td>● ● ● ●</td>
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<tr>
<td>Ceraphyl 424 ester</td>
<td>Myristyl Myristate (and) Myristyl Laurate</td>
<td>Waxy solid</td>
<td>O CO (CH₂)₁₂-C-O-(CH₂)₁₂-C-H₃</td>
<td>Enhances spreadability and reduces drag upon product application - Liquifies upon contact with the body</td>
<td>0.3 - 5.0%</td>
<td>● ● ●</td>
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<tr>
<td>Ceraphyl 375 ester</td>
<td>Isostearyl Neopentanoate</td>
<td>Liquid</td>
<td>C₃H₇-C₃H₇-C-O-C-C₁₇₇</td>
<td>Improves product spreadability and playtime - Imparts elegant, light, non-oily feel</td>
<td>0.3 - 5.0%</td>
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</table>
| Ceraphyl™ ODS ester        | Octyldodecyl Stearate            | Liquid           |  | - Imparts dry initial feel, luxurious mid-feel with a silky after-feel  
- Enhances product spreadability  
- Exceptional powder binding properties when blended with Ceraphyl 847 (1:1)                                                                                     | 0.3 - 5.0% | ❌        | ✓             |              |         | ✓           |            |
| **Esters for Maximum After-Feel** |                                  |                  |           |                                                                                                                                                                                                                     |           |          |               |              |         |            |                        |
| Ceraphyl 791 ester (complies to organic certifications, like Ecocert) | Isocetyl Stearoyl Stearate      | Liquid           | | - Imparts dry initial feel with lubricious after-feel  
- Long-lasting emollient                                                                                                                                          | 0.3 - 5.0% | ❌        | ✓             |              |         | ✓           |            |
| Ceraphyl 847 ester (complies to organic certifications, like Ecocert) | Octyldodecyl Stearoyl Stearate  | Liquid           | | - Offers dry initial feel with long-lasting cushiony, rich after-feel  
- Exceptional pigment dispersing and binding properties when blended with Ceraphyl ODS (1:1)                                                                   | 0.3 - 5.0% | ❌        | ✓             |              |         | ✓           |            |
| **Esters with Natural Appeal** |                                  |                  |           |                                                                                                                                                                                                                     |           |          |               |              |         |            |                        |
| Orchid™ Complex OS         | Capryl/Capric Triglyceride (and) Cymbidium Grandiflorum Flower Extract | Liquid           | | - Enhances product spreadability  
- Offers smooth, light, silky after-feel                                                                                                                             | 0.3 - 5.0% | ❌        | ✓             |              |         | ✓           |            |
| **Esters for Rinse-Off Products** |                                  |                  |           |                                                                                                                                                                                                                     |           |          |               |              |         |            |                        |
| Ceraphyl RMT ester         | Castoryl Maleate                 | Liquid           | | - Offers clinically-proven moisturization in rinse-off products                                                                                                 | 0.3 - 5.0% | ❌        | ✓             |              |         | ✓           |            |
| **Esters with Solubilizing Capability** |                                  |                  |           |                                                                                                                                                                                                                     |           |          |               |              |         |            |                        |
| X-Tend™ 226 ester          | Phenethyl Benzoate               | Liquid           | | - High solubilizing capacity  
- Shine enhancement  
- Excellent skin feel  
- Increases the critical wavelength and the UVA/UVB ratio  
- Boosts polymeric shine in hairsprays                                                                       | 0.3 - 5.0% | ❌        | ✓             |              |         | ✓           |            |
### Lubricants

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| Lubrajel™** II XD hydrogel  | Glycerin and Glyceryl Polyacrylate              | Clear gels        | ![Theoretical structure: Glycerol Acetate/Acrylic Acid Copolymer](image) | - Superior moisturization  
  - Imparts an inviting after-feel and slip  
  - Excellent lubricity, spreadability and emolliency  
  - Broad formulation compatibility and long shelf life  
  - Good auxiliary thickening, suspending power and viscosity enhancement  
  - Water-soluble  
  - Cold-processable | Hair treatment gels                     | 2.0 – 25.0%   |
| Lubrajel** CG hydrogel      | Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer and Propylene Glycol |                   |           |                                                                                        |                        | 5.0 – 25.0% |
| Lubrajel** DV hydrogel      | Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer and Propylene Glycol |                   |           |                                                                                        |                        | 5.0 – 25.0% |
| Lubrajel** MS hydrogel      | Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer and Propylene Glycol |                   |           |                                                                                        |                        | 2.0 – 25.0% |
| Lubrajel** Natural skin conditioning gel | Glycerin, Beta-Glucan, Algin, Xanthan Gum     | Very pale yellow viscous gel | ![Very pale yellow viscous gel](image) | - Multifunctional ingredient providing sensory and stabilization benefits  
  - Consumer pleasing aesthetics with a natural ingredient  
  - Conforms to Ecocert natural and organic cosmetic standard |                        | 0.3 – 50.0% |
| Lubrajel** NP hydrogel      | Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer |                   |           |                                                                                        |                        | 2.0 – 25%   |
| Lubrajel** Oil hydrogel     | Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer and Propylene Glycol and PVM/MA Copolymer |                   |           |                                                                                        |                        | 0.2 – 5.0%  |
| Lubrajel** PF hydrogel (Paraben-free version of Lubrajel CG) | Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer |                   |           |                                                                                        |                        | 5.0 – 25.0% |
| Lubrajel** TW hydrogel      | Propylene Glycol and Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer |                   |           |                                                                                        |                        | 2.0 – 25.0% |

*Also available in paraben-free version  
**Lubrajel and Lubrasil are registered trademarks of United-Guardian, Inc.*
<table>
<thead>
<tr>
<th>Trade Name</th>
<th>INCI Name</th>
<th>Description/Form</th>
<th>Structure</th>
<th>Features and Benefits</th>
<th>Applications</th>
<th>Use Levels</th>
</tr>
</thead>
</table>
| Lubrajel™ WA hydrogel       | Propylene Glycol (and) Glycerin (and) Glyceryl Acrylate/Acrylic Acid Copolymer (and) Poloxamer 184 | Clear gels       | ![Structure Diagram](image-url) | - Superior moisturization  
- Imparts an inviting after-feel and slip  
- Excellent lubricity, spreadability and emolliency  
- Broad formulation compatibility and long shelf life  
- Good auxiliary thickening, suspending power and viscosity enhancement  
- Water-soluble  
- Cold-processable | - Hair treatment gels         | 25.0 – 25.0%    |
| Lubrasil™ microemulsion     | Glycerin and Glyceryl Acrylate/Acrylic Acid Copolymer and Polysorbate 20 and Cyclopentasiloxane and Propylene Glycol and Dimethiconol |                |           |                                                                                       |                           | 5.0 – 25.0% |
| Lubrasil™ II DM microemulsion | Glycerin (and) Glyceryl Acrylate/Acrylic Acid Copolymer (and) Laureth-23 (and) Dimethicone |                |           |                                                                                       |                           | 2.5 – 10.0% |
| Lubrasil™ II SB microemulsion | Glycerin (and) Glyceryl Acrylate/Acrylic Acid Copolymer (and) Laureth-23 (and) Cyclopentasiloxane (and) Dimethiconol |                |           |                                                                                       |                           | 3.0 – 15.0% |

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## Encapsulates

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>INCI Name</th>
<th>Form</th>
<th>Product Image</th>
<th>Average Size</th>
<th>Wall Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Captivates™ HC0001 encapsulate</td>
<td>Aqua (Water) (and) Butyrospermum Parkii (Shea Butter) (and) CI 77007 Ultramarines (and) Gelatin (and) Acacia Senegal Gum (and) CI 77891 (Titanium Dioxide) (and) Diazolidinyl Urea</td>
<td>Blue beads in clear/hazy liquid</td>
<td><img src="image1.png" alt="Image" /></td>
<td>500-750 microns</td>
<td>Thin</td>
</tr>
<tr>
<td>Captivates HC0002 encapsulate</td>
<td>Paraffinum Liquidum (Mineral Oil) (and) Aqua (Water) (and) Gelatin (and) Acacia Senegal Gum (and) Tocopheryl Acetate (and) Prunus Persica (Peach) Kernel Oil (and) Mica (and) CI 77891 (Titanium Dioxide) (and) Diazolidinyl Urea</td>
<td>Silver beads in clear/hazy liquid</td>
<td><img src="image2.png" alt="Image" /></td>
<td>1250 microns</td>
<td>Thick</td>
</tr>
<tr>
<td>Captivates HC0003 encapsulate (not available in NA)</td>
<td>Aqua (Water) (and) Cholesteryl Oleyl Carbonate (and) Cholesteryl Nonanoate (and) Cholesteryl Chloride (and) Cholesteryl Benzoate (and) Gelatin (and) Acacia Senegal Gum (and) Diazolidinyl Urea</td>
<td>Green beads in clear/hazy liquid</td>
<td><img src="image3.png" alt="Image" /></td>
<td>1000 microns</td>
<td>Thick</td>
</tr>
<tr>
<td>Captivates HC0004 encapsulate</td>
<td>Aqua (Water) (and) Helianthus Annuus (Sunflower) Seed Oil (and) Mentha Piperita (Peppermint) Oil (and) Gelatin (and) Acacia Senegal Gum (and) Mica (and) CI 77891 (Titanium Dioxide)</td>
<td>Silver beads in clear liquid</td>
<td><img src="image4.png" alt="Image" /></td>
<td>750-1000 microns</td>
<td>Thin</td>
</tr>
<tr>
<td>Captivates HC0005 encapsulate</td>
<td>Dimethicone (and) Aqua (Water) (and) Gelatin (and) Acacia Senegal Gum (and) Mica (and) CI 77891 (Titanium Dioxide) (and) CI 73360 (Red 30) (and) Tin Oxide (and) Xanthan Gum (and) Phenoxyethanol (and) Benzoic Acid (and) Dehydroacetic Acid</td>
<td>Pink beads in clear/hazy liquid</td>
<td><img src="image5.png" alt="Image" /></td>
<td>1250-1500 microns</td>
<td>Thick</td>
</tr>
<tr>
<td>Captivates HC0006 encapsulate</td>
<td>Aqua (Water) (and) Butyrospermum Parkii (Shea Butter) (and) Gelatin (and) Acacia Senegal Gum (and) Polyester 3 (and) CI 45370 (Orange 5)</td>
<td>Orange beads in clear/hazy liquid</td>
<td><img src="image6.png" alt="Image" /></td>
<td>1250 microns</td>
<td>Thin</td>
</tr>
<tr>
<td>Captivates HC0007 encapsulate</td>
<td>Simmondsia Chinensis (Jojoba) Oil (and) Aqua (Water) (and) Gelatin (and) Acacia Senegal Gum (and) Tocopheryl Acetate (and) Mica (and) CI 77891 (Titanium Dioxide) (and) CI 47000 (Yellow 11) (and) Xanthan Gum (and) Phenoxyethanol (and) Benzoic Acid (and) Dehydroacetic Acid</td>
<td>Yellow beads in clear liquid</td>
<td><img src="image7.png" alt="Image" /></td>
<td>1250-1500 microns</td>
<td>Thick</td>
</tr>
<tr>
<td>Captivates HC0008 encapsulate (not available in NA)</td>
<td>Dimethicone (and) Aqua (Water) (and) Gelatin (and) Acacia Senegal Gum (and) Polyethylene Terephthalate/Acrylates Copolymer (and) Xanthan Gum (and) Phenoxyethanol (and) Benzoic Acid (and) Dehydroacetic Acid</td>
<td>Glittery beads in clear/hazy liquid</td>
<td><img src="image8.png" alt="Image" /></td>
<td>1250-1500 microns</td>
<td>Thick</td>
</tr>
<tr>
<td>Trade Name</td>
<td>INCI Name</td>
<td>Form</td>
<td>Product Image</td>
<td>Average Size</td>
<td>Wall Type</td>
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<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Captivates™ HC0009 encapsulate</td>
<td>Paraffinum Liquidum (Mineral Oil) (and) Aqua (Water) (and) Gelatin (and) Acacia Senegal Gum (and) Propylene Glycol (and) Ethylhexyl Methoxycinnamate (and) CI 77891 (Titanium Dioxide) (and) Mica (and) Tocopheryl Acetate (and) CI 77288 (Chromium Oxide Green) (and) CI 61565 (Green 6) (and) CI 77510 (Ferrocyanide) (and) Phenoxyethanol (and) Methylparaben</td>
<td>Blue/green beads in clear liquid</td>
<td><img src="image1.png" alt="Image" /></td>
<td>1500 microns</td>
<td>Thick</td>
</tr>
<tr>
<td>Captivates HC0012 encapsulate</td>
<td>Aqua (Water) (and) Butyrospermum Parkii (Shea Butter) (and) Gelatin (and) Acacia Senegal Gum (and) Mica (and) Helianthus Annuus (Sunflower) Seed Oil (and) CI 77891 (Titanium Dioxide) (and) Phenoxyethanol (and) Xanthan Gum (and) CI 73360 (Red 30) (and) CI 75470 (Carmine) (and) Benzoic Acid (and) Dehydroacetic Acid</td>
<td>Red beads in clear gel</td>
<td><img src="image2.png" alt="Image" /></td>
<td>1250 microns</td>
<td>Thin</td>
</tr>
<tr>
<td>Captivates GL 7661 encapsulate</td>
<td>Mixture</td>
<td>Pink beads in clear liquid</td>
<td><img src="image3.png" alt="Image" /></td>
<td>approx. 1200 microns</td>
<td>Alginate/Agar</td>
</tr>
<tr>
<td>Captivates GL 7615 encapsulate</td>
<td>Mixture</td>
<td>Gold beads in clear liquid</td>
<td><img src="image4.png" alt="Image" /></td>
<td>approx. 1300 microns</td>
<td>Carrageenan/Agar</td>
</tr>
<tr>
<td>Captivates GL 7542 encapsulate</td>
<td>Mixture</td>
<td>Green beads in clear liquid</td>
<td><img src="image5.png" alt="Image" /></td>
<td>approx. 1000 microns</td>
<td>Alginate/Agar</td>
</tr>
<tr>
<td>Captivates GL 7539 encapsulate</td>
<td>Mixture</td>
<td>Red beads in clear liquid</td>
<td><img src="image6.png" alt="Image" /></td>
<td>approx. 1000 microns</td>
<td>Alginate/Chitosan</td>
</tr>
<tr>
<td>Captivates GL 7339 encapsulate</td>
<td>Mixture</td>
<td>Green beads in clear liquid</td>
<td><img src="image7.png" alt="Image" /></td>
<td>approx. 700 microns</td>
<td>Agar</td>
</tr>
</tbody>
</table>

All ISP Captivates HC and GL can be customized in terms of size, color and ingredients.
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2 - Patent pending

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