The prototype formulations developed in our laboratory serve as new product concepts that fit in line with modern consumer trends. Our line of innovative natural antimicrobials allows for formulating safe and clean cosmetics. Each of the formulations in this product formulary has been evaluated for stability and microbiological integrity. Antimicrobial challenge testing has been performed on every formulation listed in this document.

Antimicrobial challenge testing is a microbial evaluation of a formulation’s ability to prevent growth of microorganisms over a relatively long period of time in a finished formula. Active Micro Technologies’ lab adheres to the Personal Care Products Council (PCPC) Microbiological Guidelines and performs two month long double challenge tests. Initially, the formulation is inoculated with microorganisms and the decrease in the inoculum over time is recorded. After the first month, the product is re-inoculated and the same test is performed, ensuring a high degree of formulation integrity.

Extensive Testing. Exceptional Results. Inspire yourself with the formulas in our product formulary.

**Skin Care Applications**

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**Eye and Lip Care Applications**

<table>
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<th>Page</th>
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</tr>
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<tr>
<td>28</td>
<td>Plumping Lip Balm</td>
</tr>
</tbody>
</table>
**Body Cream**

This luxurious body cream features intense moisturizing actives to help hold hydration in longer. Featuring Arborcide® OC, an organic compliant, naturally derived moisturizing antimicrobial. Recommended for all skin types, especially very dry skin. Keep skin moisturized, smooth, and beautiful with this Body Cream!

### Trade Name | INCI Name | % | Vendor
--- | --- | --- | ---
**Phase A**
Deionized Water | Water | 78.6 | Local
**Phase B**
Glycerin | Glycerin | 2.00 | Spectrum Chemical
Keltrol® CG-SFT | Xanthan Gum | 0.30 | CP Kelco
**Phase C**
Phytomulse® Coconut | Cetearyl Alcohol & Glyceryl Stearate & Coceth-20 | 6.00 | Active Concepts
AcquaSeal® Coconut | Cocos Nucifera (Coconut) Fruit Extract | 6.00 | Active Concepts
Biomimetic Jojoba Oil | Simmondsia Chinensis (Jojoba) Seed Oil | 4.00 | Active Concepts
Organic Beeswax | Cera Alba | 1.00 | Frank B. Ross
**Phase D**
Arborcide® OC | Leuconostoc Ferment Filtrate | 2.00 | Active Micro Technologies
Citric Acid (50%) | Citric Acid | 0.10 | Sigma Aldrich

**Manufacturing Procedure:**
1. Charge water into main beaker and begin propeller mixing. Begin heating to 75°C.
2. Premix Phase B, then add to main beaker when water reaches 75°C and mix until homogeneous.
3. In a separate beaker, combine Phase C ingredients and heat to 75°C while mixing. Mix until homogeneous.
4. Add Phase C to main beaker with high-speed mixing. Maintain temperature at 75°C and mix for 3 minutes.
6. At 45°C, add Phase D and mix thoroughly.

**Use Directions:**
Apply liberally to body.

**Specification Values:**
- **Appearance:** White Emulsion
- **pH-value:** 5 - 5.5
- **Viscosity (Brookfield: TF; Speed 10 rpm):** 24000 - 30000 cps
- **Stability:** >3 months stable at 4°C, 23°C, and 45°C.

**Microbiological Stability:** Proven.
PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

**Antimicrobial Efficacy Test Results**

- **Challenge Test results for Body Cream with 2.0% Arborcide® OC inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.**

---

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Clay Face Mask

Pamper, nourish, and revitalize with an amazing clay facial mask! Hydrating babassu, avocado and acai moisturize for lasting skin softness. Nutrient-rich vitamins, minerals, and fruit extracts reveal a fresh, rejuvenated complexion. Skin is healthy looking with a beautiful glow. Perfect for normal to combination skin.

Manufacturing Procedure:
1. Charge water into main beaker and begin propeller mixing. A vortex should form. Add glycerin and begin heating to 75°C.
2. Combine Phase B ingredients in a separate beaker and heat to 80°C. At temperature, add Phase B to main beaker and maintain temperature at 75°C.
4. Add sodium hydroxide.
5. Add Phase E.

Use Directions:
- Apply mask to face and neck, avoiding contact with eyes. Let dry and rinse with warm water.

Specification Values:
- Appearance: Off-White Cream
- pH-value: 5.5 - 6.0
- Viscosity (Brookfield: TF; Speed 10 rpm): 60000 - 80000 cps
- Stability: >3 months stable at 4°C, 23°C, and 45°C.

Microbiological Stability: Proven.
- PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

Antimicrobial Efficacy Test Results
- Results show log reduction in viable organisms.

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Cleansing Wipe Concentrate

Achieve clean, refreshed skin with this cleansing wipe concentrate. This gentle formula leaves skin feeling clean without the addition of perfumes, dyes, or harsh irritants. Gentle enough for every day use. Ideal for face and body. Naturally derived, moisturizing antimicrobials improve skin hydration and provide broad spectrum antimicrobial protection.

Manufacturing Procedure:
1. Disperse the Polyquaternium-80 in rapidly agitating, room temperature water. Allow to disperse completely. Once the polymer is dispersed, heat the solution to 60-65°C until clear.
2. Add the sodium lauroyl sarcosinate, ammonium lauryl sulfate, glycerin, propylene glycol, and dipropylene glycol to the polymer solution, one at a time, in order, waiting for uniformity before adding the next. Heat the entire formulation to 60-65°C.
3. In a separate container, combine ingredients of Phase B. Heat the ingredients to 60-65°C until the fatty alcohols are dissolved. At temperature, add the contents of Phase B to main with good agitation. Mix thoroughly while cooling at 45°C.
4. Add Phase C ingredients to main container.

Use Directions:
Impregnate cloths as desired.

Specification Values:
- Appearance: Milky White Liquid
- pH-value: 5 - 5.5
- Viscosity (Brookfield: TF; Speed 10 rpm): 1 - 10 cps
- Stability: >3 months stable at 4°C, 23°C, and 45°C.

Challenge Test results for Cleansing Wipe Concentrate with 2.0% Leucidal Liquid and 2.0% AMTicide Coconut inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.

Antimicrobial Efficacy Test Results

Microbiological Stability: Proven. Testing performed on wipe concentrate. PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

Trade Name | INCI Name | % | Vendor
--- | --- | --- | ---
Deionized Water | Water | 54.15 | Local
Glycerin | Glycerin | 8.00 | Spectrum Chemical
Propylene Glycol | Propylene Glycol | 2.50 | Spectrum Chemical
Dipropylene Glycol | Dipropylene Glycol | 1.50 | Spectrum Chemical
GalSoft NaLS | Sodium Lauroyl Sarcosinate (30% active) | 13.3 | Tri-K Industries
STEPANOL AM | Ammonium Lauryl Sulfate (28% active) | 13.3 | Stepan
Poly Suga Quat L-1210P | Polyquaternium-80 | 0.25 | Colonial Chemical

Phase B
- Mineral Oil | Mineral Oil | 2.00 | Spectrum Chemical
- Stearyl Alcohol | Stearyl Alcohol | 0.50 | Rita Corp.
- Cetyl Alcohol | Cetyl Alcohol | 0.50 | Rita Corp.

Phase C
- Leucidal Liquid SF | Lactobacillus Ferment | 2.00 | Active Micro Technologies
- AMTicide Coconut | Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract | 2.00 | Active Micro Technologies

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Energizing Facial Serum

Revitalize, even skin tone, exfoliate, and supercharge to reveal and maintain healthy, glowing, youthful looking skin. A vitamin-enriched, lightweight facial serum that helps restore radiance and deliver much needed therapeutic benefits so skin can shine. Perfect for all skin types, especially problem skin.

### Trade Name | INCI Name | % | Vendor
--- | --- | --- | ---
**Phase A**
Deionized Water | Water | 22.8 | Local
Dermofeel® PA-3 | Sodium Phytate | 0.20 | Dr. Straetmans
AC Alg-Moist EAU | Water (and) Algae Extract | 50.0 | Active Concepts
Glucam™ E-20 | Methyl Gluceth-20 | 1.00 | Lubrizol
AC Soluble Collagen | Soluble Collagen | 2.00 | Active Concepts
AC DermaPeptide Revitalizing PF | Hydrolyzed Rice Protein | 4.00 | Active Concepts
Prorivate Blemish Balm Complex | Lactobacillus/Salix Alba Bark Ferment Filtrate | 2.00 | Active Concepts
AC Vitamin ACE Liposome PF | Water & Phospholipids & Tocopheryl Acetate & Retinyl Palmitate & Ascorbyl Palmitate | 1.00 | Active Concepts
Water & Vaccinium Myrtillus Fruit Extract & Saccharum Officinarum (Sugar Cane) Extract & Citrus Aurantium Dulcis (Orange) Fruit Extract & Citrus Limon (Lemon) Fruit Extract & Acer Saccharum (Sugar Maple) Extract | 5.00 | Active Concepts
ACB Lemon Balm Extract | Water & Melissa Officinalis Extract | 1.00 | Active Concepts
ABS Lemon Peel Extract | Water & Citrus Medica Limonum (Lemon) Peel Extract | 1.00 | Active Concepts
Leucidal® Liquid SF | Lactobacillus Ferment | 4.00 | Active Micro Technologies
AMTicide® Coconut | Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract | 2.00 | Active Micro Technologies

### Manufacturing Procedure:
1. Charge water into main beaker and begin propeller mixing. A vortex should form.
2. Add each ingredient individually and allow complete dispersion.

### Use Directions:
Apply a pea size amount to clean skin. May be used under a moisturizer or alone.

### Specification Values:
- **Appearance:** Opaque Serum
- **pH-value:** 5 - 5.5
- **Viscosity (Brookfield: TF; Speed 10 rpm):** 1000 - 5000 cps
- **Stability:** >3 months stable at 4°C, 23°C, and 45°C.

### Microbiological Stability:
Proven.

### Challenge Test results for Energizing Facial Serum with 4.0% Leucidal® Liquid and 2.0% AMTicide® Coconut inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.

### Manufacturing Procedure:
1. Charge water into main beaker and begin propeller mixing. A vortex should form.
2. Add each ingredient individually and allow complete dispersion.

### Use Directions:
Apply a pea size amount to clean skin. May be used under a moisturizer or alone.

### Specification Values:
- **Appearance:** Opaque Serum
- **pH-value:** 5 - 5.5
- **Viscosity (Brookfield: TF; Speed 10 rpm):** 1000 - 5000 cps
- **Stability:** >3 months stable at 4°C, 23°C, and 45°C.

### Microbiological Stability:
Proven.

**PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.**

- A. brasiliensis
- C. albicans
- E. coli
- P. aeruginosa
- S. aureus

Challenge Test results for Energizing Facial Serum with 4.0% Leucidal® Liquid and 2.0% AMTicide® Coconut inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.
Micellar Water

This gentle, refreshing micellar water is made with skin loving ingredients, including oat extract, to nurture and condition skin. Micelles capture and lift away dirt and oil like a magnet, revealing clean skin. Cleanse and moisturize in one simple step to leave skin feeling fresh and revitalized. Suitable for all skin types.

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>INCI Name</th>
<th>%</th>
<th>Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized Water</td>
<td>Water</td>
<td>85.5</td>
<td>Local</td>
</tr>
<tr>
<td>Purolan® PD</td>
<td>Pentylene Glycol</td>
<td>3.00</td>
<td>Lanxess Distribution</td>
</tr>
<tr>
<td>Glycerin</td>
<td>Glycerin</td>
<td>2.00</td>
<td>Spectrum Chemical</td>
</tr>
<tr>
<td>GalSoft® SCG</td>
<td>Sodium Cocoyl Glycinate</td>
<td>0.60</td>
<td>Tri-K Industries</td>
</tr>
<tr>
<td>Polymol® HE</td>
<td>PEG 7 Glyceryl Cocoate</td>
<td>0.90</td>
<td>Aqia</td>
</tr>
<tr>
<td>NeoDermyl®</td>
<td>Glycerin and Water and Methylglucoside Phosphate and Copper Lysinate/Prolinate</td>
<td>1.00</td>
<td>Induchem</td>
</tr>
<tr>
<td>ABS Oat Extract PF</td>
<td>Avena Sativa (Oat) Bran Extract</td>
<td>1.00</td>
<td>Active Concepts</td>
</tr>
<tr>
<td>Leucidal® Liquid SF</td>
<td>Lactobacillus Ferment</td>
<td>2.00</td>
<td>Active Micro Technologies</td>
</tr>
<tr>
<td>AMTicide® Coconut</td>
<td>Lactobacillus &amp; Cocos Nucifera (Coconut) Fruit Extract</td>
<td>2.00</td>
<td>Active Micro Technologies</td>
</tr>
</tbody>
</table>

Manufacturing Procedure:
1. Charge water into main beaker and begin propeller mixing.
2. Add remaining ingredients individually while stirring. Mix until homogeneous.

Use Directions:
Apply a generous amount to a cotton pad. Wipe the cotton pad all around the face.

Specification Values:
- **Appearance**: Clear, Colorless Liquid.
- **pH-value**: 5 - 5.5
- **Viscosity (Brookfield: TF; Speed 10 rpm)**: 1 - 10 cps
- **Stability**: >3 months stable at 4°C, 23°C, and 45°C.

Microbiological Stability: Proven.
PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

Antimicrobial Efficacy Test Results

Challenge Test results for Micellar Water with 2.0% Leucidal® Liquid and 2.0% AMTicide® Coconut inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.
**Moisturizing Cleanser**

Gently cleanse and remove dirt and oil without drawing away needed moisture. The unique ingredients in this Moisturizing Cleanser help to revitalize and maintain the skin’s natural protective function, keeping skin looking and feeling healthier. Suitable for all skin types.

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>INCI Name</th>
<th>%</th>
<th>Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deionized Water</td>
<td>Water</td>
<td>51.9</td>
<td>Local</td>
</tr>
<tr>
<td>PhytoCide Black Currant Powder</td>
<td>Ribes nigrum (Black Currant) Fruit Extract</td>
<td>2.00</td>
<td>Active Micro Technologies</td>
</tr>
<tr>
<td><strong>Phase B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEPAN-MILD® LSB</td>
<td>Sodium Lauryl Sulfoacetate (and) Dissodium Laureth Sulfo succinate</td>
<td>20.95</td>
<td>Stepan</td>
</tr>
<tr>
<td>AMPHOSOL® HCG</td>
<td>Cocamidopropyl Betaine</td>
<td>10.0</td>
<td>Stepan</td>
</tr>
<tr>
<td>NINOL® 40-&lt;strong&gt;C&lt;/strong&gt;</td>
<td>Cocosamide DEA</td>
<td>4.00</td>
<td>Stepan</td>
</tr>
<tr>
<td><strong>Phase C</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABS Cucumber Extract PF</td>
<td>Water &amp; Cucumis Sativus (Cucumber) Fruit Extract &amp; Propylene Glycol</td>
<td>5.00</td>
<td>Active Concepts</td>
</tr>
<tr>
<td>AC DermaPeptide Revitalizing PF</td>
<td>Hydrolyzed Rice Protein</td>
<td>3.00</td>
<td>Active Concepts</td>
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<tr>
<td>AC Quaternized Rice Shine PF</td>
<td>Hydroxypropyltrimonium Rice Protein</td>
<td>1.00</td>
<td>Active Concepts</td>
</tr>
<tr>
<td>ABS White Orchid Milk</td>
<td>Water &amp; Phalaenopsis Amabilis Extract</td>
<td>0.05</td>
<td>Active Concepts</td>
</tr>
<tr>
<td><strong>Phase D</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Hydroxide (25%)</td>
<td>Sodium Hydroxide</td>
<td>0.60</td>
<td>Sigma Aldrich</td>
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<tr>
<td>Sodium Chloride</td>
<td>Sodium Chloride</td>
<td>1.50</td>
<td>Sigma Aldrich</td>
</tr>
</tbody>
</table>

**Manufacturing Procedure:**

1. Charge water into main beaker and begin propeller mixing. A vortex should form. Sift in PhytoCide Black Currant Powder and begin heating to 75°C. Mix until homogeneous.
2. Switch to sweep mixing. At 75°C, add each Phase B ingredient individually. Allow each ingredient to disperse completely before adding the next. Begin force cooling.
3. Pre-mix Phase C ingredients in a separate vessel. When main beaker reaches 45°C, add Phase C ingredients and mix until homogeneous.
4. Add sodium hydroxide and mix until homogeneous.
5. Add sodium chloride and mix until homogeneous.

**Use Directions:**

Apply desired amount of wash to loofah or bath sponge. Massage into skin for generous lather and then rinse with water.

**Specification Values:**

- **Appearance:** Dark Yellow, Hazy Viscous Liquid.
- **pH-value:** 4.9 - 5.2
- **Viscosity (Brookfield: TF; Speed 10 rpm):** 1000 - 5000 cps
- **Stability:** >3 months stable at 4°C, 23°C, and 45°C.

**Microbiological Stability:** Proven.

**Antimicrobial Efficacy Test Results**

![Antimicrobial Efficacy Test Results](image_url)

Challenge Test results for Moisturizing Cleanser with 2.0% PhytoCide Black Currant Powder inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.

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Yogurt Body Wash

Indulge in rich lather while cleansing, hydrating, and nourishing skin. Yogurt Body Wash nourishes skin naturally with the conditioning power of yogurt. This Yogurt Body Wash is the perfect shower companion for every day skin cleansing. Leaves skin feeling soft, clean, and cared for.

### Trade Name | INCI Name | % | Vendor
--- | --- | --- | ---
Phase A | Water | Water | 24.1 | Local
| Dermofeel® PA-3 | Sodium Phytate | 0.20 | Dr. Straetmans
Phase B | STEOL® CS 130 | Sodium Laureth Sulfate | 30.0 | Stepan
| STEPAN-MILD® LSB | Sodium Lauryl Sulfoacetate & Disodium Laureth Sulfosuccinate | 18.0 | Stepan
| AMPHOSOL® CA | Cocamidopropyl Betaine | 10.0 | Stepan
| Chembetaine™ CAS | Cocamidopropyl Hydroxysultaine | 5.00 | Lubrizol
Phase C | AC Foaming Rice PF | Sodium Cocoyl Hydrolyzed Rice Protein | 3.00 | Active Concepts
| ACB Yogurt Extract | Water & Yogurt Extract | 5.00 | Active Concepts
Phase D | Leucidal® Liquid | Leuconostoc/Radish Root Ferment Filtrate | 2.00 | Active Micro Technologies
| AMTicide® Coconut | Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract | 2.00 | Active Micro Technologies
Phase E | Crothix™ Liquid | PEG-150 Pentaeerythritol Tetrastearate & PEG-6 Caprylic/Capric glycerides & Water | 0.45 | Croda

### Manufacturing Procedure:
1. Charge water into main beaker and begin propeller mixing. A vortex should form. Begin heating to 70°C. Add Dermofeel® PA-3 and mix.
2. Switch to sweep mixing. Once temperature has reached 70°C, add each Phase B ingredient individually. Continue mixing for 15 minutes.
3. Begin force cooling. At 50°C, add each Phase C ingredient individually. Mix until homogeneous.
4. At 45°C, add each Phase D ingredient individually to main.
5. Add Phase E. Mix thoroughly.

### Use Directions:
Apply desired amount of wash to loofah or bath sponge. Massage into skin for generous lather and then rinse with water.

### Specific Values:
- **Appearance:** Hazy Viscous Liquid.
- **pH-value:** 5.2 - 5.4
- **Viscosity (Brookfield: TF; Speed 10 rpm):** 1000 - 5000 cps
- **Stability:** >3 months stable at 4°C, 23°C, and 45°C.

### Microbiological Stability:
Proven. PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

### Antimicrobial Efficacy Test Results

<table>
<thead>
<tr>
<th>Inoculum Concentration (cfu/ml)</th>
<th>A. brasiliensis</th>
<th>C. albicans</th>
<th>E. coli</th>
<th>P. aeruginosa</th>
<th>S. aureus</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 E-09</td>
<td>1.00E-07</td>
<td>1.00E-06</td>
<td>1.00E-05</td>
<td>1.00E-04</td>
<td>1.00E-03</td>
</tr>
<tr>
<td>1.00E-08</td>
<td>1.00E-07</td>
<td>1.00E-06</td>
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<tr>
<td>1.00E-07</td>
<td>1.00E-07</td>
<td>1.00E-06</td>
<td>1.00E-05</td>
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<td>1.00E-03</td>
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<td>1.00E-06</td>
<td>1.00E-05</td>
<td>1.00E-04</td>
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<td>1.00E-05</td>
<td>1.00E-04</td>
<td>1.00E-03</td>
</tr>
</tbody>
</table>

Challenge Test results for Yogurt Body Wash with 2.0% Leucidal® Liquid and 2.0% AMTicide® Coconut inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.

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Anti-Aging Hair Serum

Anti-aging hair serum prevents dull, lifeless hair associated with the aging process. Anti-aging hair serum arms hair with the tools to retain moisture, defend against styling tools, and ward off dulling environmental oppressors. Keep hair moisturized, smooth, and young with this Anti-Aging Hair Serum, perfect for all textures of hair!

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>INCI Name</th>
<th>%</th>
<th>Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deionized Water</td>
<td>Water</td>
<td>67.9</td>
<td>Local</td>
</tr>
<tr>
<td>Keltrol® CG-SFT</td>
<td>Xanthan Gum</td>
<td>0.50</td>
<td>CPKelco</td>
</tr>
<tr>
<td>ProCutGen® Vegan Thermal Shield</td>
<td>Saccharomyces Cerevisiae Extract</td>
<td>5.00</td>
<td>Active Concepts</td>
</tr>
<tr>
<td>ACB Cationic Glycoprotein PF</td>
<td>Lactobacillus/Enodictyon Californicum Ferment Extract &amp; Phospholipids</td>
<td>3.00</td>
<td>Active Concepts</td>
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<tr>
<td>ABS Apple AHA’s</td>
<td>Water &amp; Propylene Glycol &amp; Malic Acid &amp; Pyrus Malus (Apple) Fruit Extract &amp; Glycolic Acid &amp; Lactic Acid &amp; Citric Acid</td>
<td>6.00</td>
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<tr>
<td>ACB Pismum Sativum Peptide</td>
<td>Pismum Sativum (Pea) Peptide</td>
<td>5.00</td>
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<tr>
<td>AcquaSeal® Coconut</td>
<td>Cocos Nucifera (Coconut) Fruit Extract</td>
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<td>Active Concepts</td>
</tr>
<tr>
<td><strong>Phase B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucidal® Liquid SF</td>
<td>Leuconostoc/Radish Root Ferment Filtrate</td>
<td>4.00</td>
<td>Active Micro Technologies</td>
</tr>
<tr>
<td>AMTicide® Coconut</td>
<td>Lactobacillus &amp; Cocos Nucifera (Coconut) Fruit Extract</td>
<td>2.00</td>
<td>Active Micro Technologies</td>
</tr>
<tr>
<td>Citric Acid (50%)</td>
<td>Citric Acid</td>
<td>Q.S.</td>
<td>Sigma Aldrich</td>
</tr>
<tr>
<td>Potassium Hydroxide (20%)</td>
<td>Potassium Hydroxide</td>
<td>5.60</td>
<td>Spectrum Chemical</td>
</tr>
</tbody>
</table>

Manufacturing Procedure:
1. Add xanthan gum to water, allow to mix thoroughly. Heat to 60°C.
2. Once mixed thoroughly, add Phase A ingredients individually, ensuring proper mixture before adding the next while cooling. Mix thoroughly.
4. Adjust pH to 5.5.

Use Directions:
Apply dime size amount to clean damp hair. Style accordingly.

Specification Values:
- **Appearance**: Opaque, Light Brown Serum
- **pH**: 5.5
- **Viscosity (Brookfield: TF; Speed 10 rpm)**: 1000 - 5000 cps
- **Stability**: ≥3 months stable at 4°C, 23°C, and 45°C.

**Antimicrobial Efficacy Test Results**

- **Challenge Test results for Anti-Aging Hair Serum with 2.0% AMTicide® Coconut and 4.0% Leucidal® Liquid SF inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.**

Information contained in this technical literature is believed to be accurate and is offered in good faith for the benefit of the customer. The company, however, cannot assume any liability or risk involved in the use of its chemical products since the conditions of use are beyond its control. Statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. We make no warranty of any kind, expressed or implied, other than that the material conforms to the applicable standard specifications. Freedom from patent infringement is not implied. All information is for investigative purposes only.
Pro-Bonding Conditioner

Experience weightless nourishment and protection all day long. Pro-Bonding Conditioner is the perfect accompaniment to the Pro-Bonding Shampoo. Pro-Bonding Conditioner reinforces all day protection, but won’t weight hair down. Pro-Bonding Conditioner leaves hair soft, smooth and ready to take on the day!

**Manufacturing Procedure:**
1. Sprinkle xanthan gum on to water while mixing. Mix until uniform.
3. Add Phase C one ingredient at a time as listed.
4. Add Phase D. Mix and cool to ambient temperature.

**Use Directions:**
Apply quarter size amount to wet, clean hair, massage into hair and scalp, rinse. Use in conjunction with Pro-Bonding Shampoo for maximum protection.

**Specification Values:**
- **Appearance:** Off-White Cream.
- **pH:** 7.0 - 8.0
- **Viscosity (Brookfield: TF; Speed 10 rpm):** 30000 - 40000 cps
- **Stability:** >3 months stable at 4°C, 23°C, and 45°C.

**Microbiological Stability:** Proven.
PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

**Antimicrobial Efficacy Test Results**

**Trade Name** | **INCI Name** | **%** | **Vendor**
--- | --- | --- | ---
**Phase A**
Deionized Water | Water (Aqua) | 13.0 | Local
Keltrol® CG-SFT | Xanthan Gum | 2.00 | CPKelco

**Phase B**
Deionized Water | Water (Aqua) | 51.5 | Local
Tego® Alkanol 16 | Cetyl Alcohol | 4.00 | Evonik
Tego® Alkanol 18 | Stearyl Alcohol | 4.00 | Evonik

**Phase C**
Shea Butter Refined | Shea Butter | 1.00 | Rita Corp.
ABS Pomegranate Sterols | Punica Granatum Sterols | 1.00 | Active Concepts
SilDerm® Softening | Cyclopentasiloxane & Dimethicone/Bis-Vinyldimethicone/Silsesquioxane Crosspolymer & Silk | 3.00 | Active Concepts
Glycerin | Glycerin | 3.00 | Spectrum Chemical
ProCutGen® Bond | Salvia Hispanica Seed Extract | 5.00 | Active Concepts
AC Vegan Kerazyme® Protect & Hydrolyzed Soy Protein & Bambusa Arundinacea Leaf Extract & Trametes Versicolor Extract | 5.50 | Active Concepts
AC Keratin Hydrolysat 30 PF | Hydrolyzed Keratin | 4.00 | Active Concepts

**Phase D**
Leucidal® Liquid SF | Lactobacillus Ferment | 4.00 | Active Micro Technologies
AMTicide® Coconut | Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract | 2.00 | Active Micro Technologies
Pro-Bonding Shampoo promotes healthy cuticles, protects from external stressors and prevents damage throughout the day. The multifunctional Pro-Bonding Shampoo delivers moisturizing, smoothing, and nourishing attributes for healthy, protected locks!

### Specification Values:
- **Appearance:** Light Yellow Viscous Liquid.
- **pH-value:** 5 - 5.2
- **Viscosity (Brookfield: TF; Speed 10 rpm):** 3000 - 8000 cps
- **Stability:** >3 months stable at 4°C, 23°C, and 45°C.

### Use Directions:
Apply quarter size amount to wet hair, massage into hair and scalp. Great for every day use and before and after chemical treatments.

### Antimicrobial Efficacy Test Results

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<thead>
<tr>
<th>Inoculum Concentration (cfu/ml)</th>
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<th>7</th>
<th>14</th>
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<td>1.0E+05</td>
<td>1.0E+04</td>
<td>1.0E+03</td>
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<td>1.0E+05</td>
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**Challenge Test results for Pro-Bonding Shampoo with 3.0% Leucidal® Liquid SF inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.**

### Microbiological Stability: Proven.
PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

### Manufacturing Procedure:
1. Add water to main vessel and beginpropellar mixing.
2. While heating to 55-60°C, add Disodium EDTA, Sodium C14-C16 Olefin Sulfonate, and Cocamidopropyl Betaine.
3. Add the remaining ingredients in order. Mix until homogeneous.

### Version #1/07.28.17
The perfect blow dry requires healthy-looking hair without rebellious split ends. This prepping Split End Sealant effectively smooths split ends to get hair style ready. Helps nourish hair that’s prone to breaking, splitting or snapping off, while smoothing the cuticle, leaving hair healthy, shiny and resilient.

Manufacturer Procedure:
1. Charge water into main beaker and begin propeller mixing. A vortex should form. Add remaining Phase A ingredients and mix until homogeneous.
2. Pre-mix cetrimonium chloride and xanthan gum in a separate beaker. Slowly add these Phase B ingredients to main and mix until homogeneous.
3. In a separate beaker, combine Phase C ingredients. Then add to main beaker and mix until homogeneous.
4. In a separate beaker, combine Phase D ingredients. Add to main beaker and mix until homogeneous.
5. In a separate beaker, combine Phase E ingredients. Add to main beaker and mix until homogeneous.
6. Add SynerCide Asian Fusion to main beaker and mix thoroughly. Add TEA, citric acid, and acrylates copolymer individually to main, mixing thoroughly.

Use Directions:
Apply a pea-sized amount to wet or dry hair. Make sure to smooth completely through to the ends.

Specification Values:
- Appearance: Hazy Viscous Liquid.
- pH: 5.15
- Viscosity (Brookfield: TF; Speed 10 rpm): 4000 - 10000 cps
- Stability: >3 months stable at 4°C, 23°C, and 45°C.

Antimicrobial Efficacy Test Results

Microbiological Stability: Proven.
PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

<table>
<thead>
<tr>
<th>Inoculum Concentration (cfu/ml)</th>
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<td>1.00E+07</td>
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</tr>
<tr>
<td>1.00E+00</td>
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</table>

Challenge Test results for Split End Sealant with 2.0% PhytoCide Aspen Bark Extract Powder and 2.0% SynerCide Asian Fusion inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.

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**Sulfate-Free Shampoo**

Sulfate-Free Shampoo bathes hair in a mild lather while calming and smoothing frizzy strands. Free of added dyes and harsh sulfates, refresh and revitalize your color treated hair with this gently cleansing and purifying shampoo.

### Use Directions:
Apply a quarter-sized amount to wet hair and lather. Rinse. Repeat if desired.

### Specification Values:
- **Appearance**: Hazy Viscous Liquid.
- **pH-value**: 5.2 - 5.4
- **Viscosity (Brookfield: TF; Speed 10 rpm)**: 2500 - 4000 cps
- **Stability**: >3 months stable at 4°C, 23°C, and 45°C.

### Manufacturing Procedure:
1. Charge water in main beaker, begin propeller mixing, and start heating to 60°C-65°C. Add glycerin, tetrasodium EDTA, STEPAN-MILD® PCL, AMPHOSOL® HCG, STEPAN-MILD® GCC, and glycol distearate using moderate agitation. Continue heating to 60°C-65°C. Mix for at least 30 minutes until everything is completely dissolved.
2. Cool mixture to 40°C. Adjust mixing to minimize aeration. At 40°C, add panthenol.
3. Add Phase B ingredients individually at 40°C. Mix until uniform and cool to room temperature.

### Use Directions:
Apply a quarter-sized amount to wet hair and lather. Rinse. Repeat if desired.

### Microbiological Stability:
Proven.

PCPC Section 20 Method 3 - Determination of Preservation Adequacy of Water-Miscible Personal Care Products.

### Antimicrobial Efficacy Test Results

<table>
<thead>
<tr>
<th>Inoculum Concentration (cfu/ml)</th>
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<th>1.0E+02</th>
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<th>1.0E+04</th>
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<td>A. brasiliensis</td>
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</tr>
<tr>
<td>C. albicans</td>
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<tr>
<td>E. coli</td>
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<tr>
<td>S. aureus</td>
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</table>

Challenge Test results for Sulfate-Free Shampoo with 2.0% Leucidal® Liquid SF and 2.0% AMTicide® Coconut inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.

---

**Trade Name** | **INCI Name** | **%** | **Vendor**
--- | --- | --- | ---
**Phase A**
Water | Water | 53.8 | Local
Glycerin | Glycerin | 0.50 | Spectrum Chemical
Tetrasodium EDTA | Tetrasodium EDTA | 0.10 | BASF
STEPAN-MILD® PCL | Sodium Methyl-2 Sulfolaurate and Disodium 2-Sulfolaurate, Sodium Lauryl Sulfoacetate | 38.0 | Stepan
AMPHOSOL® HCG | Cocamidopropyl Betaine | 10.0 | Stepan
STEPAN-MILD® GCC | Glyceryl Caprylate/Caprate | 0.30 | Stepan
Hallstar® EGDS | Glycol Distearate | 0.50 | Hallstar
DL-Panthenol | Panthenol | 0.20 | Sandream Impact

**Phase B**

- **Leucidal® Liquid SF** | Lactobacillus Ferment | 2.00 | Active Micro Technologies
- **AMTicide® Coconut** | Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract | 2.00 | Active Micro Technologies
Plumping Lip Balm

Hydrate and plump lips for the perfect pout! This moisturizing lip balm features hydrating coconut for a refreshed, deeply nourished pout. A combination of plumping actives help to reduce the appearance of fine lines and wrinkles by volumizing and promoting youthful, healthy lips. Kiss dry lips goodbye!

Manufacturing Procedure:
1. Melt the waxes in the oils and mix the pigments until a homogeneous dispersion.
2. If desired, add fragrance and pour balm into container.

Use Directions:
Apply desired amount of wash to loofah or bath sponge. Massage into skin for generous lather and then rinse with water.

Specification Values:
Appearance: Solid, Red Balm.
Stability: ≥3 months stable at 4°C, 23°C, and 45°C.

Antimicrobial Efficacy Test Results
- **A. brasiliensis**
- **C. albicans**
- **E. coli**
- **P. aeruginosa**
- **S. aureus**

Challenge Test results for Plumping Lip Balm with 2.0% PhytoCide Elderberry OS inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable organisms.

Trade Name | INCI Name | % | Vendor
--- | --- | --- | ---
Olivem® 900 | Sorbitan Olivate | 15.0 | HallStar
Oliwax | Hydrogenated Olive Oil (and) Olea Europaea (Olive) Fruit Oil (and) Olea Europaea (Olive) Oil Unsaponifiables | 3.0 | HallStar
Eutanol® G | Octyldodecanol | 22.0 | DeWolf Chemical
Biomimetic Jojoba Oil | Simmondsia Chinensis (Jojoba) Seed Oil | 22.0 | Active Concepts
Castor Oil | Ricinus Communis (Castor) Seed Oil | 21.0 | Caribbean Natural Products Inc.
AC NanoVector Plump GABA HYA | Ethylhexyl Palmitate & Silica Dimethyl Silylate & Butylene Glycol & Caprylyl Glycol & Hexylene Glycol & Sodium Hyaluronate | 3.0 | Active Concepts
Beeswax | Beeswax | 5.0 | Koster Keunen, Inc
MetalBeads® MicroWax | Microcrystalline Wax | 5.0 | FlorTech
PhytoGide Elderberry OS | Sambucus Nigra Fruit Extract | 2.0 | Active Micro Technologies
Iron Oxide | Iron Oxide | 1.0 | Kobo Products, Inc.
AcquaSeal® Coconut | Cocos Nucifera (Coconut) Fruit Extract | 1.0 | Active Concepts

Microbiological Stability: Proven.
PCPC Section 20 Method 6 - Method for Preservation Testing of Atypical Personal Care Products.