

# Repair Cream

This quick guide gives you everything you need at a glance when making the formula — tools, containers, ingredient lists, and step-by-step directions. Use it as your working page while you formulate. There's space to check off steps, record notes, and customize your batch if you enjoy experimenting.

For your first batch, you only need the Test Version (with Active Blend options) and the core directions — print those pages and skip the rest until you're ready to scale up or customize. The Full Formula, Minimalist Blend, and Custom Blend tables can be printed later.

After printing, use the notes column to jot adjustments or observations directly onto the directions table — it's designed as your working surface while you formulate.

Difficulty: Moderate

Required Ingredients: 9

Optional Ingredients: 11

Prep Time: 1 hour

**⚠ IMPORTANT:** This quick guide is for formulation only. Before beginning, please **read the full description of the Repair Cream** for detailed safety precautions, ingredient explanations, and usage instructions.

## Suggested Tools & Equipment

- gloves (optional)
- spray bottle with 70% isopropyl alcohol
- large-capacity scale (5000 g × 0.01 g)
- milligram scale (100 g × 0.001 g)
- 2 heat sources (such as hot plates, water baths, or double boilers)
- digital thermometer
- 1 glass beaker (~500 mL)
- 1 glass beaker (~100 mL)
- 2 glass beakers (50 mL)
- beakers to aid pouring (50–100 mL)
- tiny glass or ceramic dishes
- several stainless-steel lab spatulas
- stainless-steel spoons
- skewers or disposable pipettes (optional)
- flexible silicone scrapers
- whisk (optional)
- high-speed immersion blender
- calibrated pH meter
- medium beaker with deionized water
- Citric Acid Solution
- Baking Soda Solution
- 3M KCl Storage Solution for pH meter
- lint-free tissue
- wide-neck funnel (optional)
- sanitized, completely dry final container
- labels

## Suggested Container Options

- 1 [Amber Boston Round Glass Bottle with Black Pump \(8 oz/236 mL each\)](#)
- 2 [Amber Boston Round Glass Bottles with Black Pumps \(4 oz/118 mL each\)](#)
- 2 [Amber Straight-Sided Glass Jars with Black Lids \(4 oz/118 mL each\)](#)

**Note:** Jars can be used, but pumps are more convenient for daily use and help keep the cream protected from air and microbes, especially if you apply it after washing your hands.

## Formulation Notes

- <sup>1</sup> Substitute for Deionized Water: Chamomile, Rose, or Lavender Hydrosol, or Distilled Water. Hydrosols spoil quickly; buy only what you'll use and discard any unused portion. Do not use tap water, as it may contain minerals or microbes that can spoil your formula.
- <sup>2</sup> Substitute for Sodium Phytate: Sodium Citrate or EDTA (cosmetic grade). Follow the supplier's guidance.
- <sup>3</sup> Optional. Substitute for Sodium PCA: Sodium Lactate. If omitted, increase water.
- <sup>4</sup> Substitute for 1,3-Propanediol: Glycerin (stickier, slightly thicker).
- <sup>5</sup> Optional. If omitting Colloidal Oatmeal, increase water.
- <sup>6</sup> Substitute for Xanthan Gum (Soft): Regular Xanthan Gum (creates a more "gel-like" feel). Do not omit. The gum must be measured and mixed before you make the cream—you cannot add it afterward. Use 0.30% for a thicker cream or 0.20% for a thinner cream in your next batch.
- <sup>7</sup> Substitute for Olivem 1000: Montanov 68, Polawax, or Emulsifying Wax NF. (Texture will change; follow supplier rates.)
- <sup>8</sup> Optional. Substitute for Meadowfoam Oil: Jojoba, Squalane, or Sunflower (slightly lighter or richer feel). See ***Plant Oils for Skincare***.
- <sup>9</sup> Optional. Substitute for Mango Butter: Shea Butter (more moisturizing/greasy) or Kokum Butter (firmer/drier). If omitted, increase MCT Oil.
- <sup>10</sup> Substitute for Caprylic/Capric Triglycerides (MCT Oil): Fractionated Coconut Oil, Jojoba, or Squalane (lightens the texture).
- <sup>11</sup> Optional. Substitute for Eumulgin SG: Sodium Stearoyl Lactylate or Glyceryl Stearate (and) PEG-100 Stearate. These emulsifiers create a different texture; follow the supplier rates.
- <sup>12</sup> Optional. Keep total actives less than or equal to 7% to avoid destabilizing the emulsion. See below for suggestions. Introduce one active at a time in future batches and patch test. If omitted, increase water.
- <sup>13</sup> Substitute for Euxyl PE 9010: A broad-spectrum preservative such as Liquid Germall Plus (used at 0.1–0.5%) or Optiphen. If using a different preservative, follow the supplier's recommended usage rate and pH requirements.
- <sup>14</sup> Optional. Certain essential oils add calming, purifying, or antioxidant effects. Use at 0.25–0.5% for eye-area safety; choose gentle options such as copaiba, chamomile, rose, or lavender, or omit if sensitive. See ***Essential Oils for Skin Care***.
- <sup>15</sup> Substitute for Mixed Tocopherols: Rosemary Extract (25% standardized) at 0.1–0.3%. The "25%" refers to the strength sold by suppliers, not the amount you use in the formula.
- <sup>16</sup> Prepare a Citric Acid Solution (25% Citric Acid Powder with 75% Deionized Water) to adjust pH. See ***Making a Formula Work***.
- <sup>17</sup> Substitute for Probacillus Revive: another water-soluble probiotic ferment at the supplier's recommended rate. If omitted, increase water.
- <sup>18</sup> Use a pre-blended Ceramide Complex. If omitted, increase water.
- <sup>19</sup> Substitute for Bisabolol: Chamomile CO<sub>2</sub> (has a noticeable herbal scent). If omitted, increase water.
- <sup>20</sup> With Alpha Arbutin, keep pH 4.5–5.5 for stability. If omitted, increase water.
- <sup>21</sup> Substitute for Saffron Stem Cells: Rice Protein, Hydrolyzed Oat Protein. If omitted, increase water.
- <sup>22</sup> Substitute for Acetyl Hexapeptide-8 (Argireline): Palmitoyl Tripeptide-5 (for visible firmness), Acetyl Heptapeptide-4 (for redness). Substitutes may change performance. If omitting the peptide complex, increase the water.
- <sup>23</sup> If omitting Bakuchiol, increase water.

# TEST FORMULA

Makes 122 g Cream / Fills one 4 fl oz (118 mL) bottle

This version is designed for testing. Making a small batch first lets you check texture, scent, and skin feel before committing to a larger amount. Once you're happy with the results, you can make the larger batch for general use.

| Phase | Ingredients  | Function               | %       | Grams  |
|-------|--|------------------------|---------|--------|
| A     | <b>Deionized Water</b> <sup>1</sup>                | Hydrates               | 69.40%  | 84.67  |
| A     | <b>Sodium Phytate</b> <sup>2</sup>                 | Boosts stability       | 0.20%   | 0.24   |
| A     | Sodium PCA <sup>3</sup>                            | Boosts hydration       | 0.30%   | 0.37   |
| B     | <b>1,3-Propanediol</b> <sup>4</sup>                | Boosts hydration       | 4.00%   | 4.88   |
| B     | Colloidal Oatmeal <sup>5</sup>                     | Calms skin             | 1.00%   | 1.22   |
| B     | <b>Xanthan Gum - Soft</b> <sup>6</sup>             | Stabilizes texture     | 0.25%   | 0.31   |
| C     | <b>Olivem 1000</b> <sup>7</sup>                    | Blends oil and water   | 5.00%   | 6.10   |
| C     | Meadowfoam Oil <sup>8</sup>                        | Moisturizes            | 4.00%   | 4.88   |
| C     | Mango Butter <sup>9</sup>                          | Nourishes              | 3.00%   | 3.66   |
| C     | <b>Caprylic/Capric Triglycerides</b> <sup>10</sup> | Lightens texture       | 3.00%   | 3.66   |
| C     | Eumulgin SG <sup>11</sup>                          | Blends oil and water   | 0.50%   | 0.61   |
| D     | Active Blend <sup>12</sup>                         | Targets concerns       | 7.00%   | 8.54   |
| D     | <b>Euxyl PE 9010</b> <sup>13</sup>                 | Preserves the formula  | 1.00%   | 1.22   |
| D     | Essential Oil <sup>14</sup>                        | Adds scent and support | 0.50%   | 0.61   |
| D     | <b>Mixed Tocopherols</b> <sup>15</sup>             | Keeps oils fresh       | 0.50%   | 0.61   |
| E     | <b>Citric Acid Solution</b> <sup>16</sup>          | Balances pH to 5.2-5.5 | 0.35%   | 0.43   |
|       |  |                        | 100.00% | 122.00 |

## Suggested Active Blends for a 122 g TEST Batch

**Important!** Choose only one 7% blend. Do not combine blends.

### The Restorer: Barrier Repair Blend (7%):

| Ingredients                      | Function                  | %     | Grams |
|----------------------------------|---------------------------|-------|-------|
| Probacillus Revive <sup>17</sup> | Supports skin barrier     | 4.00% | 4.88  |
| Ceramide complex <sup>18</sup>   | Supports skin barrier     | 2.50% | 3.05  |
| Bisabolol <sup>19</sup>          | Calms and reduces redness | 0.50% | 0.61  |

### The Clarifier: Acne + Spot Repair Blend (7%):

| Ingredients                      | Function                  | %     | Grams |
|----------------------------------|---------------------------|-------|-------|
| Probacillus Revive <sup>17</sup> | Supports skin barrier     | 4.50% | 5.49  |
| Alpha arbutin <sup>20</sup>      | Fades spots               | 2.00% | 2.44  |
| Bisabolol <sup>19</sup>          | Calms and reduces redness | 0.50% | 0.61  |

### The Lifter: Line-Softening + Firming Blend (7%):

| Ingredients                                     | Function                  | %     | Grams |
|---|---------------------------|-------|-------|
| Saffron Stem Cells <sup>21</sup>                | Improves firmness         | 3.00% | 3.66  |
| Acetyl Hexapeptide-8 (Argireline) <sup>22</sup> | Softens lines             | 3.00% | 3.66  |
| Bakuchiol <sup>23</sup>                         | Improves firmness/texture | 1.00% | 1.22  |

# FULL FORMULA (Includes Optional Ingredients)

Makes 244 g Cream / Fills one 8 fl oz (236 mL) bottle

| Phase | Ingredients  | Function               | %       | Grams  |
|-------|--|------------------------|---------|--------|
| A     | <b>Deionized Water</b> <sup>1</sup>                | Hydrates               | 69.40%  | 169.34 |
| A     | <b>Sodium Phytate</b> <sup>2</sup>                 | Boosts stability       | 0.20%   | 0.49   |
| A     | Sodium PCA <sup>3</sup>                            | Boosts hydration       | 0.30%   | 0.73   |
| B     | <b>1,3-Propanediol</b> <sup>4</sup>                | Boosts hydration       | 4.00%   | 9.76   |
| B     | Colloidal Oatmeal <sup>5</sup>                     | Calms skin             | 1.00%   | 2.44   |
| B     | <b>Xanthan Gum - Soft</b> <sup>6</sup>             | Stabilizes texture     | 0.25%   | 0.61   |
| C     | <b>Olivem 1000</b> <sup>7</sup>                    | Blends oil and water   | 5.00%   | 12.20  |
| C     | Meadowfoam Oil <sup>8</sup>                        | Moisturizes            | 4.00%   | 9.76   |
| C     | Mango Butter <sup>9</sup>                          | Nourishes              | 3.00%   | 7.32   |
| C     | <b>Caprylic/Capric Triglycerides</b> <sup>10</sup> | Lightens texture       | 3.00%   | 7.32   |
| C     | Eumulgin SG <sup>11</sup>                          | Blends oil and water   | 0.50%   | 1.22   |
| D     | Active Blend <sup>12</sup>                         | Targets concerns       | 7.00%   | 17.08  |
| D     | <b>Euxyl PE 9010</b> <sup>13</sup>                 | Preserves the formula  | 1.00%   | 2.44   |
| D     | Essential Oil <sup>14</sup>                        | Adds scent and support | 0.50%   | 1.22   |
| D     | <b>Mixed Tocopherols</b> <sup>15</sup>             | Keeps oils fresh       | 0.50%   | 1.22   |
| E     | <b>Citric Acid Solution</b> <sup>16</sup>          | Balances pH to 5.2-5.5 | 0.35%   | 0.85   |
|       |  |                        | 100.00% | 244.00 |

## Suggested Active Blends for a 244g FULL Batch

**Important!** Choose only one 7% blend. Do not combine blends.

### The Restorer: Barrier Repair Blend (7%):

| Ingredients                      | Function                  | %     | Grams |
|----------------------------------|---------------------------|-------|-------|
| Probacillus Revive <sup>17</sup> | Supports skin barrier     | 4.00% | 9.76  |
| Ceramide complex <sup>18</sup>   | Supports skin barrier     | 2.50% | 6.10  |
| Bisabolol <sup>19</sup>          | Calms and reduces redness | 0.50% | 1.22  |

### The Clarifier: Acne + Spot Repair Blend (7%):

| Ingredients                      | Function                  | %     | Grams |
|----------------------------------|---------------------------|-------|-------|
| Probacillus Revive <sup>17</sup> | Supports skin barrier     | 4.50% | 10.98 |
| Alpha arbutin <sup>20</sup>      | Fades spots               | 2.00% | 4.88  |
| Bisabolol <sup>19</sup>          | Calms and reduces redness | 0.50% | 1.22  |

### The Lifter: Line-Softening + Firming Blend (7%):

| Ingredients                                     | Function                  | %     | Grams |
|---|---------------------------|-------|-------|
| Saffron Stem Cells <sup>21</sup>                | Improves firmness         | 3.00% | 7.32  |
| Acetyl Hexapeptide-8 (Argireline) <sup>22</sup> | Softens lines             | 3.00% | 7.32  |
| Bakuchiol <sup>23</sup>                         | Improves firmness/texture | 1.00% | 2.44  |

# MINIMALIST FORMULA (Required Ingredients Only)

Makes 244 g Cream / Fills one 8 fl oz (236 mL) bottle

This version makes a smooth, lighter, faster-absorbing everyday moisturizer that's easy to use on its own or customize when you want something more. It leaves out the richer plant oils, butters, silky texture enhancers, and targeted treatment ingredients found in the full formula. It won't feel as plush, cushiony, or nourishing, and it won't offer the extra skin-supporting benefits the full version provides.

| Phase | Ingredients                                       | Function               | %       | Grams  |
|-------|---|------------------------|---------|--------|
| A     | <b>Deionized Water<sup>1</sup></b>                | Hydrates               | 78.70%  | 192.03 |
| A     | <b>Sodium Phytate<sup>2</sup></b>                 | Boosts stability       | 0.20%   | 0.49   |
| B     | <b>1,3-Propanediol<sup>5</sup></b>                | Boosts hydration       | 4.00%   | 9.76   |
| B     | <b>Xanthan Gum - Soft<sup>6</sup></b>             | Stabilizes texture     | 0.25%   | 0.61   |
| C     | <b>Olivem 1000<sup>7</sup></b>                    | Blends oil and water   | 5.00%   | 12.20  |
| C     | <b>Caprylic/Capric Triglycerides<sup>10</sup></b> | Lightens texture       | 10.00%  | 24.40  |
| D     | <b>Euxyl PE 9010<sup>14</sup></b>                 | Preserves the formula  | 1.00%   | 2.44   |
| D     | <b>Mixed Tocopherols<sup>15</sup></b>             | Keeps oils fresh       | 0.50%   | 1.22   |
| E     | <b>Citric Acid Solution<sup>17</sup></b>          | Balances pH to 5.2-5.5 | 0.35%   | 0.85   |
|       |   |                        | 100.00% | 244.00 |

# How to Use the Custom Blend Table

This table is provided to help you customize your blend. Only fill it out if you enjoy experimenting and feel comfortable working with percentages. The full formula above is already balanced and ready to use.

You may choose any batch size you like. Percentages always stay the same; only the grams change. Enter the percentage you want for each ingredient and adjust the values until your total reaches 100%. Then calculate the grams so they add up to your chosen batch size. Add the % column to ensure it equals 100%, and add the grams column to ensure it equals your batch size. Items shown in bold are required components of the formula.

Some percentages are already filled in for you because these ingredients must stay at fixed levels for safety, stability, or performance. Only adjust the blank cells.

Examples of the math:

- If you choose a 50 g batch and an ingredient is 7%, multiply:  $50 \times 0.07 = 3.5$  g
- If you choose a 200 g batch and an ingredient is 1%, multiply:  $200 \times 0.01 = 2$  g
- If you choose a 112 g batch and an ingredient is 0.5%, multiply:  $112 \times 0.005 = 0.56$  g

## MY CUSTOM BLEND

Repair Cream

| Phase | Ingredients   | Function               | %       | Grams |
|-------|---|------------------------|---------|-------|
| A     | <b>Deionized Water</b> <sup>1</sup>                           | Hydrates               |         |       |
| A     | <b>Sodium Phytate</b> <sup>2</sup> (0.2% Max)                 | Boosts stability       |         |       |
| A     | Sodium PCA <sup>3</sup> (0.5-1.5%)                            | Boosts hydration       |         |       |
| B     | <b>1,3-Propanediol</b> <sup>4</sup> (7% Max)                  | Boosts hydration       |         |       |
| B     | Colloidal Oatmeal <sup>5</sup> (1% Max)                       | Calms skin             |         |       |
| B     | <b>Xanthan Gum - Soft</b> <sup>6</sup>                        | Stabilizes texture     | 0.25%   |       |
| C     | <b>Olivem 1000</b> <sup>7</sup>                               | Blends oil and water   | 5.00%   |       |
| C     | Meadowfoam Oil <sup>8</sup> (6% Max)                          | Moisturizes            |         |       |
| C     | Mango Butter <sup>9</sup> (4% Max)                            | Nourishes              |         |       |
| C     | <b>Caprylic/Capric Triglycerides</b> <sup>10</sup> (10% Max)  | Lightens texture       |         |       |
| C     | Eumulgin SG <sup>11</sup> (1% Max)                            | Blends oil and water   |         |       |
| D     | Active Blend <sup>12</sup> (7% Max) (See below)               | See below              |         |       |
| D     | <b>Euxyl PE 9010</b> <sup>13</sup>                            | Preserves the formula  | 1.00%   |       |
| D     | Essential Oil <sup>14</sup> (Max 0.5% Eyes, 1% Face, 2% Body) | Adds scent and support |         |       |
| D     | <b>Mixed Tocopherols</b> <sup>15</sup>                        | Keeps oils fresh       | 0.50%   |       |
| E     | <b>Citric Acid Solution</b> <sup>16</sup> (as needed)         | Balances pH to 5.2-5.5 |         |       |
|       |   |                        | 100.00% |       |

## Active Blends for **MY CUSTOM BLEND**

**Important!** Choose only one 7% blend. Do not combine blends.

### **The Restorer: Barrier Repair Blend (7%):**

| Ingredients                               | Function                  | % | Grams |
|---|---------------------------|---|-------|
| Probacillus Revive <sup>17</sup> (Max 5%) | Supports skin barrier     |   |       |
| Ceramide complex <sup>18</sup> (Max 3%)   | Supports skin barrier     |   |       |
| Bisabolol <sup>19</sup> (Max .5%)         | Calms and reduces redness |   |       |

### **The Clarifier: Acne + Spot Repair Blend (7%):**

| Ingredients                               | Function                  | % | Grams |
|---|---------------------------|---|-------|
| Probacillus Revive <sup>17</sup> (Max 5%) | Supports skin barrier     |   |       |
| Alpha arbutin <sup>20</sup> (Max 2%)      | Fades spots               |   |       |
| Bisabolol <sup>19</sup> (Max .5%)         | Calms and reduces redness |   |       |

### **The Lifter: Line-Softening + Firming Blend (7%):**

| Ingredients                                 | Function                  | % | Grams |
|---|---------------------------|---|-------|
| Saffron Stem Cells <sup>21</sup> (Max 3%)   | Improves firmness         |   |       |
| Acetyl Hexapeptide-8 <sup>22</sup> (Max 3%) | Softens lines             |   |       |
| Bakuchiol <sup>23</sup> (Max 1%)            | Improves firmness/texture |   |       |

Date:

| Formulation Method   | Notes | ✓ |
|--|-------|---|
| <p>Prepare your workspace and a sanitized, completely dry container. Wash and dry your hands or put on gloves. Spray all tools and equipment with 70% Isopropyl Alcohol and let them air-dry before beginning.</p>               |       |   |
| <b>Phase A: Blend Water-based Ingredients</b>  |       |   |
| <p>1. Place a <b>clean beaker</b> that holds at least twice the amount of product you plan to make on the large-capacity scale.</p>  |       |   |
| <p>2. <b>Press Tare</b> to show 0.00 g. Use a spoon or small beaker to slowly pour the <b>Deionized Water</b> into the beaker until you reach the required weight. Do not use tap water.</p>                                     |       |   |
| <p>3. Place a <b>clean tiny dish</b> on the milligram scale and <b>press Tare</b> to show 0.000 grams.</p>   |       |   |
| <p>4. Use the flat end of a lab spatula to sprinkle <b>Sodium Phytate</b> into the dish to reach the target weight. <b>Transfer to the beaker.</b></p>   |       |   |
| <p>5. Remove the beaker from the scale. Use a lab spatula or <b>whisk to completely dissolve powder.</b></p>   |       |   |
| <p>6. Return the beaker to the scale. <b>Press Tare.</b> Use a pipette or spoon to slowly drizzle <b>Sodium PCA</b> into the beaker to reach the target weight. <b>Stir</b> to combine. <b>Set aside.</b></p>                    |       |   |
| <b>Phase B: Make a Slurry</b>  |       |   |
| <p>1. Place a <b>clean beaker</b> that holds at least 50 mL on the milligram scale.</p>  |       |   |
| <p>2. <b>Press Tare</b> to 0.000 g. Use a spoon to slowly drizzle <b>1,3-Propanediol</b> into the small beaker to reach the target weight.</p>   |       |   |
| <p>3. Optional. <b>Press Tare.</b> Use the flat end of a lab spatula to slowly sprinkle <b>Colloidal Oatmeal</b> into the small beaker to reach the target weight.</p>   |       |   |
| <p>4. <b>Press Tare.</b> Use the flat end of a spatula to slowly sprinkle <b>Xanthan Gum</b> powder into the small beaker to reach the target weight. Measure carefully because too much gum will make the cream feel gummy.</p> |       |   |
| <p>5. <b>Stir</b> with a scraper until uniform. <b>Set aside.</b></p>  |       |   |

| Formulation Method   | Notes | ✓ |
|--|-------|---|
| <b>Phase C: Blend Oil-based Ingredients</b>  |       |   |
| 1. Place a <b>clean beaker that holds at least 100 mL</b> on the large-capacity scale.   |       |   |
| 2. <b>Press Tare.</b> Use a large to slowly add <b>Olivem 1000</b> into the beaker to reach the target weight.   |       |   |
| 3. Optional. <b>Press Tare.</b> Use a spoon or small beaker to slowly drizzle <b>Meadowfoam Oil</b> into the beaker to reach the target weight.  |       |   |
| 4. Optional. <b>Press Tare.</b> Cut off small portions of <b>Mango Butter</b> with the flat end of a spatula or a clean knife, then transfer with a spoon to the beaker to reach the target weight.  |       |   |
| 5. <b>Press Tare.</b> Use a spoon or small beaker to slowly drizzle <b>Caprylic/Capric Triglycerides (MCT)</b> into the beaker to reach the target weight.   |       |   |
| 6. Optional. Return the <b>tiny dish</b> to the milligram scale. Use a lab spatula to <b>break up any clumps</b> in the <b>Eumulgin SG</b> powder. Using the flat end of the spatula, slowly sprinkle the powder into the dish until you reach the target weight. <b>Transfer</b> into the Phase C oil-phase beaker. |       |   |
| 7. <b>Stir</b> the oil phase ingredients with a lab spatula.   |       |   |
| <b>Heat</b>  |       |   |
| 1. <b>Heat Phase A water ingredients to 70–75°C (158–167°F).</b>   |       |   |
| 2. <b>On a separate heating source, at the same time, heat Phase C (oil ingredients) to 70–75°C (158–167°F)</b> until all solids are melted and uniform. Oils tend to heat more quickly than water, so <b>monitor this carefully with a thermometer</b> and adjust the heat as needed.                               |       |   |
| 3. <b>Stir</b> occasionally and <b>scrape</b> sides to ensure even heating.  |       |   |
| 4. <b>Once Phase A reaches the target temperature, stir the Phase B slurry and scrape it into the Phase A beaker. Stir until uniform.</b>  |       |   |
| 5. <b>Prepare your immersion blender.</b>  |       |   |
| 6. <b>Prepare a non-slip silicone mat</b> or a damp paper towel to hold the beaker in place while blending.  |       |   |

| Formulation Method  | Notes | ✓ |
|---|-------|---|
| <b>Form the Cream</b>   |       |   |
| 1. When the water-based mixture and the oil-based mixture each reach <b>70–75°C (158–167°F)</b> , <b>remove the beakers from the heat source.</b>   |       |   |
| 2. <b>Wipe the thermometer(s)</b> with a paper towel.   |       |   |
| 3. <b>Place the Phase A/B water beaker on a non-slip surface.</b>   |       |   |
| 4. <b>Pour:</b> Hold the <b>immersion blender at the bottom of the Phase A/B water beaker</b> with your dominant hand. <b>Start the blender.</b> With your other hand, <b>pour the Phase C oil mixture into the water in a thin, steady stream</b> while blending. As soon as the oil beaker is "empty" (but still has residue), set it down on the counter. Do not stop the blender. |       |   |
| 5. <b>Blend.</b> Keep the blender running for at least <b>60 seconds.</b> This is the most critical window for creating a stable emulsion.  |       |   |
| 6. <b>Pause.</b> Turn off the blender and rest it on a clean paper towel.   |       |   |
| 7. <b>Scrape.</b> Quickly use your flexible scraper to get every bit of the leftover butters and waxes out of the <b>Phase C beaker</b> and into the main batch.  |       |   |
| 8. <b>Smooth. Pulse/blend</b> for another <b>15–20 seconds</b> to incorporate the last scraps of oil.   |       |   |
| 9. <b>Rinse</b> the blender blade for easier cleaning.  |       |   |
| 10. <b>Cool. Occasionally stir</b> with a lab spatula as the cream cools. <b>Once the temperature drops below 40°C, stir often.</b> This ensures a perfectly uniform, fluid viscosity. <b>Keep stirring to 25°–30°C (77°–86°F).</b> This prevents a "skin" from forming on top.   |       |   |

| Formulation Method  | Notes | ✓ |
|---|-------|---|
| <b>Phase D: Add Cool-Down Ingredients</b>   |       |   |
| While the cream base cools, measure out your Phase D ingredients, but do not include them until the cream cools to below 25°–30°C (77°–86°F).   |       |   |
| 1. Place a <b>clean beaker that holds at least 50 mL</b> on the milligram scale.  |       |   |
| 2. Optional. <b>Press Tare.</b> Use a pipette or spoon to add your chosen <b>Active Blend ingredients</b> one at a time until you reach the target weight, keeping the combined percentage at or <b>below 7%</b> . <b>Stir</b> with a flexible scraper <b>after each addition</b> to create a smooth blend with no grit.  |       |   |
| 3. <b>Press Tare.</b> Use a small spoon or a disposable pipette to slowly drizzle <b>Euxyl PE 9010</b> into the beaker to reach the target weight. Measure your preservative carefully—it keeps your products safe to use.  |       |   |
| 4. Optional. <b>Press Tare.</b> Use a small spoon, skewer, or a disposable pipette to slowly drizzle the <b>Essential Oil</b> into the beaker to reach the target weight. Let the scale stabilize after each drop. Your essential oil choice may tint the cream. If your bottle has a dropper insert, remove it before measuring (see <b>Making a Formula Work</b> ). |       |   |
| 5. <b>Press Tare.</b> Use a small spoon or a disposable pipette to add <b>Mixed Tocopherols</b> drop by drop into the same beaker to reach the target weight. Let the scale stabilize after each drop.  |       |   |
| 6. Use a lab spatula or flexible scraper to <b>stir again</b> until the entire Phase D mixture is a smooth, syrupy liquid.  |       |   |
| 7. <b>When the cream is cool to the touch, below 25°–30°C (77°–86°F), take a small amount (2 tablespoons) of your cream and mix it into the Phase D beaker. Stir gently until uniform.</b>  |       |   |
| 8. Use a flexible scraper to <b>scrape the Phase D mixture into the main beaker</b> with the cream. <b>Stir</b> gently until uniform. The Lifter Blend may need a little extra stirring.  |       |   |

| Formulation Method   | Notes | ✓ |
|--|-------|---|
| <b>Phase E: Adjust pH (Target pH: 5.2–5.5)</b>   |       |   |
| 1. Ensure your <b>Citric Acid Solution</b> and <b>Baking Soda Solution</b> are ready.  |       |   |
| 2. Prepare a beaker of <b>Deionized Water</b> for rinsing the probe.   |       |   |
| 3. <b>Rinse</b> the pH probe very well with Deionized Water to remove the storage solution.  |       |   |
| 4. <b>Measure pH:</b> Gently <b>shake</b> off excess water and <b>touch</b> the outside of the plastic housing to a lint-free tissue. <b>Submerge</b> the probe tip fully into the middle of the beaker, then <b>swirl</b> gently. <b>Wait</b> for the reading to stabilize (15-30 seconds), then <b>record the pH</b> .   |       |   |
| 5. <b>Between subsequent readings</b> , after the mask has touched the probe, place the probe under a steady stream of cool running water. Use a soft-bristled brush to gently but thoroughly scrub away all traces of the cream from the bulb and the plastic housing. <b>While adding Citric Acid or stirring, rest the clean probe in a beaker of Deionized Water for no more than 2 minutes.</b>   |       |   |
| 6. <b>Return the beaker to the scale and press Tare. Slowly add the Citric Acid Solution.</b> Begin by adding about half of the estimated Citric Acid Solution from your formula table. This estimate is approximate because your active blend will influence how much Citric Acid Solution you ultimately need. When you get close to your target range, add the Citric Acid Solution one or two drops at a time (1 drop of solution is approximately 0.04-0.05 g). |       |   |
| 7. <b>Immediately stir gently but firmly with a scraper for 60 seconds.</b>  |       |   |
| 8. <b>Repeat</b> pH adjustment steps 4–7 as needed to reach the target pH of 5.2–5.5.  |       |   |
| 9. <b>Fix.</b> If you go below the target, use the Baking Soda Solution, a drop at a time, to gently raise the pH.   |       |   |
| 10. <b>Rest for at least 2 minutes, then test to confirm</b> the pH level is steady.   |       |   |
| 11. <b>Record</b> how much Citric Acid Solution you used. This serves as your reference for future batches, making the process faster and more predictable.  |       |   |
| 12. <b>Wipe</b> and <b>rinse</b> the pH probe very well with Deionized Water and <b>store</b> it in 3M KCl storage solution.   |       |   |

| Package   | Notes | ✓ |
|---|-------|---|
| 1. Use a wide-neck funnel to <b>pour the cream</b> into a clean, completely dry bottle. <b>For thicker creams</b> , use a narrow scraper or the lotion-pump dip tube to coax the cream through the funnel. Lightly tap the funnel or bottle to help the cream move downward without trapping air. |       |   |
| 2. <b>Wipe</b> the rim, then cap tightly.   |       |   |
| 3. <b>Label</b> the container(s) with the product name and a 6-month expiration date.   |       |   |
| 4. <b>Store</b> in a cool, dark place away from moisture and sunlight.  |       |   |

| Cleanup   | ✓ |
|---|---|
| <b>Tools</b>  |   |
| 1. Immediately after making the product, <b>wipe down tools</b> with a clean, dry paper towel.              |   |
| 2. <b>Rinse all tools</b> under warm running water to loosen residue.                                       |   |
| 3. <b>Wash with hot, soapy water</b> using a soft sponge or bottle brush.                                   |   |
| 4. For stubborn residue, <b>soak</b> tools in warm water with dish soap for 10–15 minutes before scrubbing. |   |
| 5. <b>Sanitize tools</b> in a dishwasher if they are dishwasher-safe.                                       |   |
| <b>Workspace</b>  |   |
| 1. <b>Wipe down counters and scales</b> with a damp cloth.  |   |
| 2. <b>Sanitize surfaces</b> with 70% isopropyl alcohol (spray or wipes), then allow to air-dry.             |   |
| 3. <b>Store</b> clean tools in a covered container or drawer to prevent dust and contamination.             |   |