# Pieridae Beauty – Manuka Curl Define & Protect Cream-Serum

For Lightly Textured 4C Hair

Batch Size: 100 g  
pH Target: 4.8–5.2  
Appearance: Smooth, creamy lotion with light slip

## Formula

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Phase | Ingredient | % w/w | g (100g batch) | Function |
| A | Distilled Water | 57% | 57.0 | Base solvent |
| A | Aloe Vera Juice | 10% | 10.0 | Light hydration, cuticle smoothing |
| A | Panthenol (B5) | 2% | 2.0 | Shine, frizz control |
| A | Hydrolyzed Rice Protein (LC1550) | 2% | 2.0 | Elasticity, light volume |
| A | VegeKeratin | 1.5% | 1.5 | Curl structure, light hold |
| B | Shea Butter (refined) | 5% | 5.0 | Rich emollient, softness |
| B | Argan Oil | 4% | 4.0 | Lightweight shine, frizz control |
| B | Olive Squalane | 3% | 3.0 | Silky slip, non-greasy emollient |
| B | BTMS-50 | 4% | 4.0 | Conditioning emulsifier, detangling |
| B | Cetyl Alcohol | 3% | 3.0 | Creamy texture, structure |
| C | Leptospermum scoparium mel (Manuka Honey) | 2% | 2.0 | Humectant, antimicrobial scalp support |
| C | Niacinamide | 1% | 1.0 | Strengthens cuticle, scalp health |
| C | Liquid Germall Plus | 1% | 1.0 | Preservative |
| C | Fragrance / Essential Oil | 0.5% | 0.5 | Scent (optional) |
| C | Lactic Acid (88%) | q.s. | to pH | pH adjustment |

## Manufacturing Instructions

Preparation Notes:  
- Sanitize all tools, containers, and work surfaces.  
- Wear gloves to prevent contamination.  
- Weigh ingredients accurately.

Step 1 – Heat Water Phase (A):  
1. In a heat-safe beaker, combine distilled water, aloe vera juice, panthenol, LC1550, and VegeKeratin.  
2. Heat to 70–75°C with gentle stirring.  
  
Step 2 – Heat Oil Phase (B):  
3. In a separate beaker, combine shea butter, argan oil, olive squalane, BTMS-50, and cetyl alcohol.  
4. Heat to 70–75°C until fully melted.  
  
Step 3 – Emulsification:  
5. Slowly pour the oil phase into the water phase while blending with a stick blender.  
6. Continue high-shear blending for 2–3 minutes, then switch to gentle stirring while cooling.  
  
Step 4 – Cool-Down Phase (C):  
7. When the mixture is below 40°C, add manuka honey, niacinamide, Liquid Germall Plus, and fragrance.  
8. Mix until uniform.  
  
Step 5 – pH Adjustment:  
9. Check pH and adjust to 4.8–5.2 with lactic acid (88%) dropwise.  
  
Step 6 – Packaging:  
10. Fill into jars or pump bottles, label with product name, batch date, and storage instructions.

## Usage

- Apply to damp or dry hair, focusing on mid-lengths to ends.  
- Style as desired (twist-out, braid-out, or wash-and-go).  
- Can be layered with a light oil for extra sealing.

## Storage & Shelf Life

- Store in a cool, dry place away from direct sunlight.  
- Shelf life: ~12 months with Liquid Germall Plus at 1%.

## Scaling Reference

500 g batch: multiply all gram values by 5.  
1 kg batch: multiply all gram values by 10.