Pieridae Brightening Deodorant Balm – Jar (Jojoba, No EDTA) + Green Tea Extract

Batch Size: 100 g | pH Target: 5.2–5.5  
Update: Added 1% Green Tea Extract (water‑soluble) to enhance antioxidant, anti‑inflammatory, and anti‑PIH benefits.  
Texture: Soft, scoopable water‑in‑oil cream‑balm with plush glide and low residue.

# Formula (100 g) — Updated

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| Phase | Ingredient | % w/w | Grams |
| A | Shea Butter (refined) | 18 | 18 |
| A | Jojoba Oil | 12.8 | 12.8 |
| A | Olive Squalane | 6 | 6 |
| A | Zinc Ricinoleate | 4 | 4 |
| A | Beeswax | 7 | 7 |
| A | Olivem 1000 or Emulsifying Wax NF | 8 | 8 |
| A | Vitamin E (MT-50) | 1 | 1 |
| A | Bisabolol | 0.2 | 0.2 |
| B | Distilled Water | 15 | 15 |
| B | Glycerin | 5 | 5 |
| B | N-Acetyl Glucosamine | 3 | 3 |
| B | Niacinamide | 2 | 2 |
| B | Allantoin | 0.5 | 0.5 |
| B | Panthenol (Vitamin B5) | 2 | 2 |
| B | Green Tea Extract (water-soluble) | 1 | 1 |
| B (opt.) | Optional: Manuka Honey | 1 | 1 (if used, reduce water to 14 g) |
| C | Kaolin Clay | 8 | 8 |
| C | Arrowroot (or Tapioca) Starch | 4 | 4 |
| C | Liquid Germall Plus | 0.5 | 0.5 |
| C | Fragrance (optional) | 1 | 1 |

# Processing Instructions

1. Phase A (≈75 °C): Melt shea butter, jojoba, squalane, zinc ricinoleate, beeswax, emulsifier, and vitamin E until uniform.  
2. Phase B (≈70 °C): In distilled water + glycerin, dissolve N‑acetyl glucosamine, niacinamide, allantoin, panthenol, and green tea extract. Adjust pH to 5.2–5.5 with 20% citric acid or 10% NaOH if needed.  
3. Emulsify: Slowly add Phase B into Phase A with high‑shear mixing 1–2 min; mixture thickens while cooling.  
4. Cooldown (<45 °C): Fold in kaolin and arrowroot; add Liquid Germall Plus and fragrance; mix gently to avoid aeration.  
5. Jar & Cure: Fill sterilized jars; tap to release bubbles; cure 24 h before QC.

# Notes & QC

• Color may shift slightly beige/green depending on extract; use opaque or frosted packaging if desired.  
• Target pH (10× dilution): 5.2–5.5. Record exact acid/base adjustments for batch reproducibility.  
• Micro/Challenge testing recommended, especially if the optional honey is included.  
• Storage: ≤25 °C, away from direct light. Shelf-life expectation: 12 months (confirm via stability testing).