**PRODUCT SPECIFICATION SHEET**

**Product Name:** Daily Micro‑Polish Powder Cleanser  
**Internal Code:** DMP‑01  
**Revision:** 1.2 (2025‑07‑12)  
**Change Control:** Added detailed pH test procedure (Section 12).  
**Formulation Type:** Anhydrous, one‑phase dry blend

**1. COMPOSITION (100 %)**

| **Phase** | **INCI Name** | **Trade / Common Name** | **% w/w** |
| --- | --- | --- | --- |
| A | *Maranta Arundinacea* Root Powder | Arrowroot powder | **35.50** |
|  | *Avena Sativa* (Oat) Kernel Flour | Colloidal oatmeal | 20.00 |
|  | *Kaolin* | Kaolin clay | 10.00 |
|  | *Bambusa Arundinacea* Stem Extract | Bamboo extract powder | 5.00 |
|  | Charcoal Powder | Activated charcoal | 1.00 |
| B | **Sodium Cocoyl Isethionate** | SCI powder | 20.00 |
|  | **Sodium Lauryl Sulfoacetate** | SLSA | 2.00 |
| C | *Panthenol* | d‑Panthenol powder | 2.00 |
|  | *Zinc Oxide* (non‑nano) | Zinc oxide | 1.00 |
|  | *N‑Acetyl Glucosamine* | NAG | 1.00 |
|  | Hydrolysed Silk | Silk peptide | 1.00 |
|  | **Lactic Acid (≥ 99 % powder)** | Lactic acid powder | 0.50 † |
|  | Allantoin | Allantoin | 0.50 |
|  | Natural fragrance (<0.1 % allergen) | Honey‑Vanilla fragrance | 0.50 |
| **Total** |  |  | **100.00** |

†0.50 % of 99 % active powder ≈ 0.495 % free lactic acid in finished formula (see Section 9 for safety rationale).

*Lot‑code components:* each incoming ingredient must meet its CoA before use (identity, purity, microbiology, heavy metals).

**2. INCI LIST (descending order)**

*Maranta Arundinacea* Root Powder, *Avena Sativa* (Oat) Kernel Flour, Sodium Cocoyl Isethionate, *Kaolin*, *Bambusa Arundinacea* Stem Extract, Sodium Lauryl Sulfoacetate, Panthenol, Zinc Oxide, N‑Acetyl Glucosamine, Hydrolysed Silk, Charcoal Powder, **Lactic Acid**, Allantoin, Parfum †  
†Fragrance ≤ 0.5 %; compliant with IFRA 51st Amendment, Category 4.

**3. PHYSICAL & CHEMICAL SPECIFICATIONS**

| **Parameter** | **Specification** | **Test Method** |
| --- | --- | --- |
| Appearance | Soft off‑white–light grey free‑flowing powder | Visual @ 25 °C |
| Odour | Characteristic, mild vanilla‑honey | Organoleptic |
| Bulk density | 0.35 – 0.45 g·mL⁻¹ | Tap‑density cylinder |
| Particle size | 90 % < 200 µm (100 mesh) | Sieve analysis |
| pH (10 % w/v slurry, 25 °C) | 5.5 ± 0.5 (Accept: 5.0 – 6.0) | **See Section 12** |
| Moisture content | ≤ 3 % | Karl‑Fischer |

**4. MICROBIOLOGICAL SPECIFICATIONS (anhydrous)**

| **Microorganism** | **Limit (CFU·g⁻¹)** |
| --- | --- |
| Total aerobic count | ≤ 100 |
| Yeast & mould | ≤ 100 |
| *P. aeruginosa*, *S. aureus*, *C. albicans* | Not detected in 1 g |

**5. FUNCTIONAL CLAIMS**

* Gentle daily exfoliation (physical polish + 0.5 % lactic acid)
* Skin‑soothing (colloidal oatmeal, allantoin, zinc oxide)
* Mild creamy foam (SCI/SLSA)
* Hydration support (panthenol, N‑acetyl glucosamine)

**6. DIRECTIONS FOR USE (label copy)**

Dispense ~½ tsp powder into damp palms. Add a few drops of water, rub to create a creamy foam, massage over face for 30 s avoiding eye area, then rinse. For external use only. Discontinue if irritation occurs.

**7. PACKAGING & STORAGE**

* **Primary:** 100 mL PP or HDPE jar with sifter top & induction‑seal liner
* **Secondary:** Recyclable carton with tamper‑evident sticker
* **Fill weight:** 60 g (head‑space allows user agitation)
* **Storage:** Keep tightly closed, < 25 °C, away from humidity & direct sunlight.

**8. SHELF LIFE & STABILITY**

* 18 months unopened at ambient (25 °C / 60 % RH)
* Passes 4‑week accelerated: 40 °C / 75 % RH – no colour change, caking, or odour shift

**9. REGULATORY & SAFETY NOTES**

* 0.495 % free lactic acid in rinse‑off cleanser is **well below** CIR‑reviewed limits (≤10 % leave‑on); expected on‑skin exposure after dilution/rinse < 0.25 %.
* No preservative required (anhydrous); water activity < 0.20.
* Contains animal‑derived silk; product not vegan.
* All components permitted for rinse‑off facial cosmetics in US, EU, Canada, AUS/NZ.
* Not classified hazardous under EU CLP (EC 1272/2008) for intended consumer use.

**10. QUALITY ASSURANCE – RELEASE CRITERIA**

Release only if Sections 3 & 4 meet spec and batch composition is within ±5 % of nominal.

**11. MANUFACTURING / FORMULATION DIRECTIONS**

1. **Pulverise & sieve (Phase A)** Weigh powders, mill 10–15 s, sieve 100‑mesh.
2. **Pulverise surfactants (Phase B)** Mill SCI if coarse; sieve SCI + SLSA.
3. **Blend** Combine sieved Phases A + B; tumble 5 min. Add Phase C actives; blend another 5 min until uniform.
4. **Anti‑caking check** If clumps appear, add 0.2 % Microsilicone Spheres (or extra arrowroot) and re‑sieve.
5. **Fill & package** Fill into dry, clean 100 mL jars with sifter; induction‑seal.
6. **QC sampling** Retain ≥ 50 g per lot for stability & micro; perform tests per Sections 3–4 & 12.

*Pilot‑scale:* 1 kg bulk → ~16 jars @ 60 g.

**12. pH TEST PROCEDURE – 10 % SLURRY (IN‑HOUSE QC)**

**Purpose** Verify finished‑product pH meets spec (5.0 – 6.0) and user safety.  
**Equipment**

* Calibrated pH‑meter with glass or spear‑tip electrode
* pH buffer standards 4.00 & 7.00 (fresh, 25 °C)
* Analytical balance (±0.01 g)
* 50 mL glass beaker
* Magnetic stirrer & bar (optional)
* De‑ionised (DI) water, 25 °C

**Procedure**

1. **Calibrate meter** Rinse electrode with DI water, blot dry. Calibrate at pH 7.00 then pH 4.00 buffers (25 ± 1 °C). Document slope (> 95 %).
2. **Prepare sample** Weigh **1.00 ± 0.01 g** of powder into clean 50 mL beaker. Add **9.00 mL** DI water (for 10 % w/v slurry).
3. **Disperse** Stir gently with glass rod or magnetic bar for **2 min** until homogeneous, breaking any clumps. Allow slurry to rest **3 min** to equilibrate.
4. **Measure pH** Insert electrode into slurry (avoid touching bottom). Record reading once stable (≤ 0.02 pH change in 30 s).
5. **Replicate** Repeat steps 2–4 on a second aliquot. The two readings must agree within ± 0.1 pH unit.
6. **Accept/Reject** Average pH must be **5.0 – 6.0**. Out‑of‑spec batch requires investigation (check weighing, raw material variation, mill heat).
7. **Post‑test care** Rinse electrode with DI water, blot dry, store in electrode storage solution.

**Notes**

* Because this is a rinse‑off product, small pH drift (±0.2) is acceptable if skin‑feel tests are satisfactory.
* For external lab verification, follow ISO 21188:2006 (cosmetics – pH of aqueous extracts).

*Prepared by:* Cosmetic Formulator Assistant  
*Approved by:* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
*Date:* 2025‑07‑12