**PRODUCT SPECIFICATION SHEET**

**Product Name:** Peptide‑Antioxidant Daily Moisturizer  
**Internal Code:** PAM‑01  
**Revision:** 1.0 (2025‑07‑12)  
**Intended Use:** Lightweight yet nourishing face cream for normal, mature skin – suitable for day or night  
**Formulation Type:** O/W emulsion, ~23 % oil phase

**1. COMPOSITION (100 %)**

| **Phase** | **INCI Name** | **Trade / Common Name** | **% w/w** |
| --- | --- | --- | --- |
| **A – Water phase (75 °C)** | Water | Distilled water | **43.6** |
|  | *Anthemis nobilis* Flower Water | Chamomile hydrosol | 10.0 |
|  | *Cucumis sativus* Fruit Water | Cucumber hydrosol | 5.0 |
|  | Glycerin | Vegetable glycerin | 4.0 |
|  | Sodium Lactate (60 %) | Sodium lactate solution | 2.0 |
|  | N‑Acetyl Glucosamine | NAG | 2.0 |
|  | Panthenol | d‑Panthenol powder | 2.0 |
|  | Hydroxyethylcellulose | HEC | 0.3 |
| **B – Oil phase (75 °C)** | Cetearyl Olivate & Sorbitan Olivate | Olivem 1000 | 4.0 |
|  | Cetearyl Alcohol | Cetearyl alcohol | 2.0 |
|  | *Helianthus annuus* Seed Oil | Sunflower oil | 5.0 |
|  | *Argania spinosa* Kernel Oil | Argan oil | 3.0 |
|  | *Rosa canina* Fruit Oil | Rose‑hip oil | 2.0 |
|  | Squalane | Olive squalane | 2.0 |
|  | *Butyrospermum parkii* Butter | Refined shea butter | 2.0 |
|  | Dimethicone (350 cSt) | Dimethicone | 1.0 |
|  | Tetrahexyldecyl Ascorbate | THD Ascorbate | 1.0 |
|  | Tocopherol | Vitamin E oil | 0.5 |
|  | Ubiquinone | Coenzyme Q10 | 0.3 |
| **C – Cool‑down (<40 °C)** | Water & Glycerin & Acetyl Hexapeptide‑8 & Pentapeptide‑18 & Dipeptide‑2 | Lotioncrafter Wrinkle Defense Complex | 5.0 |
|  | Sodium Hyaluronate (1 % sol., HMW) | HA solution HMW | 1.0 |
|  | Hydrolyzed Sodium Hyaluronate (1 % sol., LMW) | HA solution LMW | 1.0 |
|  | Bakuchiol | Bakuchiol | 0.5 |
|  | Propylene Glycol & Diazolidinyl Urea & IPBC | Germall Plus | 0.8 |
| **Total** |  |  | **100.0** |

**Lot‑code components**

All incoming ingredients must meet CoA specifications (identity, purity, micro, heavy metals) before use.

**2. INCI LIST (finished product, descending order)**

Aqua, Anthemis Nobilis Flower Water, Cucumis Sativus (Cucumber) Fruit Water, Helianthus Annuus (Sunflower) Seed Oil, Glycerin, Cetearyl Olivate, Sorbitan Olivate, Argania Spinosa Kernel Oil, Butyrospermum Parkii (Shea) Butter, Squalane, Rosa Canina Fruit Oil, Cetearyl Alcohol, Sodium Lactate, Sodium Cocoyl Isethionate\*, Panthenol, Dimethicone, Acetyl Hexapeptide‑8, Tetrahexyldecyl Ascorbate, Pentapeptide‑18, Tocopherol, N‑Acetyl Glucosamine, Bakuchiol, Hydroxyethylcellulose, Ubiquinone, Sodium Hyaluronate, Hydrolyzed Sodium Hyaluronate, Dipeptide‑2, Diazolidinyl Urea, Propylene Glycol, Iodopropynyl Butylcarbamate, Sodium Hydroxide†

\*Trace amount carried in Wrinkle Defense Complex matrix.  
†Used q.s. for pH adjustment where necessary.

**3. PHYSICAL & CHEMICAL SPECIFICATIONS**

| **Parameter** | **Specification** | **Test Method** |
| --- | --- | --- |
| Appearance | Smooth pale ivory cream, no separation | Visual @25 °C |
| Odour | Subtle herbal (chamomile/cucumber), no off‑odour | Organoleptic |
| Viscosity | 10 000 – 12 000 cP (Brookfield LV, Spindle 4, 10 rpm, 25 °C) | ASTM D2196 |
| pH (25 °C) | 5.2 – 5.8 | ISO 21188:2006 |
| Specific gravity | 0.97 – 1.00 g·mL⁻¹ | Pycnometer |

**4. MICROBIOLOGICAL SPECIFICATIONS (Emulsion, preserved)**

| **Micro‑organism** | **Limit (CFU·g⁻¹)** |
| --- | --- |
| Total aerobic count | ≤ 100 |
| Yeast & mould | ≤ 100 |
| *P. aeruginosa*, *S. aureus*, *C. albicans* | Not detected in 1 g |
| Challenge test (ISO 11930) | A‑pass (≥3‑log reduction) |

**5. FUNCTIONAL CLAIMS**

* Multi‑path hydration (glycerin, sodium lactate, dual‑weight HA)
* Barrier & lipid replenishment (squalane, sunflower & argan oils, shea butter)
* Antioxidant shield (THD Ascorbate, CoQ10, vitamin E, bakuchiol)
* Peptide‑assisted wrinkle defence (Argireline®, Pentapeptide‑18, Dipeptide‑2)
* Lightweight texture for day; sufficient nourishment for night

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

Apply 1–2 pumps to face and neck after cleansing and serum.  
Use morning and/or night. Follow with SPF in daytime. External use only; discontinue if irritation develops.

**7. PACKAGING & STORAGE**

* **Primary:** 50 mL airless pump (PP/EVOH) or 2 oz opaque glass jar with seal
* **Secondary:** Recyclable carton with tamper‑evident sticker
* **Fill weight / volume:** 50 g / 50 mL
* **Storage:** Keep tightly closed at 10–25 °C; avoid direct sunlight.

**8. SHELF LIFE & STABILITY**

* 24 months unopened at ambient (25 °C/60 % RH)
* Passes accelerated 8‑week 40 °C/75 % RH & 5 freeze‑thaw cycles
* In‑use stability: ≥12 months once opened (consumer simulation test)

**9. REGULATORY & SAFETY NOTES**

* All ingredients permitted for rinse‑off and leave‑on facial cosmetics in US, EU, Canada, AUS/NZ.
* Germall Plus at 0.8 % provides broad spectrum preservation while remaining below CIR max (1 %).
* Formula is nut‑oil‑free (argan is tree‑fruit kernel), gluten‑free, and fragrance‑free (naturally scented hydrosols only).
* Contains no animal‑derived ingredients → **vegan**.
* Not classified as hazardous under EU CLP (EC 1272/2008).

**10. QUALITY ASSURANCE – RELEASE CRITERIA**

Batch passes only if Sections 3 & 4 meet spec and composition is within ±5 % of nominal. Documentation: Batch Record, CoAs, equipment log.

**11. MANUFACTURING / FORMULATION DIRECTIONS**

1. **Phase A prep** – Into main kettle, combine water + hydrosols → 75 °C. Disperse pre‑hydrated HEC. let hydrate ≥30 min
2. **Add humectants** – Glycerin, sodium lactate, NAG, panthenol; maintain 75 °C.
3. **Phase B prep** – In side kettle, combine oils, butters, emulsifiers, antioxidants; heat to 75 °C ensuring CoQ10 and THD Ascorbate dissolve.
4. **Emulsify** – With high‑shear homogeniser, add Phase B to Phase A; homogenise 2 min.
5. **Cool & switch to sweep** – Maintain gentle stirring; cool to 40 °C.
6. **Phase C** – Add peptide complex, HA solutions, bakuchiol, preservative; mix 10 min.
7. **pH adjust** – Target 5.2–5.8 using 10 % lactic acid or 10 % NaOH.
8. **Final cool** – <30 °C; de‑air with slow sweep or vacuum; fill immediately.

Yield: 100 kg bulk → 1 900 × 50 mL units.

**12. QC TEST PROCEDURES**

**12.1 pH (ISO 21188)**

Prepare 10 % w/v dilution in DI water, 25 °C; measure with calibrated pH meter.

**12.2 Viscosity (ASTM D2196)**

Brookfield LV, Spindle 4, 10 rpm @25 °C; record after 60 s.

**12.3 Micro – PET (ISO 11930)**

Conduct preservative efficacy test on first three production lots; thereafter annually.

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

Notes:

It’s light enough for daytime yet nourishing enough for overnight wear, with barrier-supporting lipids, multilayer hydration, peptides and antioxidants that mature skin loves.  
(Feel free to split it into separate “Day” and “Night” SKUs—see tweak box after the formula.)

| **Phase** | **Ingredient (INCI)** | **% w/w** | **Key role** |
| --- | --- | --- | --- |
| **A – Water phase (75 °C)** |  |  |  |
| Distilled Water | 43.6 | Primary diluent |  |
| Chamomile Hydrosol (*Anthemis nobilis* Flower Water) | 10.0 | Calming, anti-redness |  |
| Cucumber Hydrosol (*Cucumis sativus* Fruit Water) | 5.0 | Refreshing, anti-puff |  |
| Vegetable Glycerin | 4.0 | Humectant |  |
| Sodium Lactate 60 % | 2.0 | NMF booster, pH buffer |  |
| N-Acetyl Glucosamine | 2.0 | Brightening, barrier synergy |  |
| d-Panthenol Powder | 2.0 | Pro-vitamin B5, soothing |  |
| Hydroxyethylcellulose (HEC) | 0.3 | Pre-hydrated thickener to support viscosity |  |
| **B – Oil phase (75 °C)** |  |  |  |
| Olivem 1000 (Cetearyl Olivate & Sorbitan Olivate) | 4.0 | Primary emulsifier |  |
| Cetearyl Alcohol | 2.0 | Co-emulsifier, body |  |
| Sunflower Oil | 5.0 | Lightweight emollient, linoleic acid |  |
| Argan Oil | 3.0 | Nourishing, tocopherols |  |
| Rose-hip Oil | 2.0 | Pro-retinoid carotenoids |  |
| Olive Squalane | 2.0 | Skin-identical emollient |  |
| Refined Shea Butter | 2.0 | Soft occlusion, rich feel |  |
| Dimethicone (350 cSt) | 1.0 | Silky slip, TEWL reduction |  |
| Tetrahexyldecyl Ascorbate | 1.0 | Lipid-soluble Vitamin C (photoprotection, collagen) |  |
| Vitamin E Oil (Mixed Tocopherols) | 0.5 | Antioxidant for oils |  |
| Coenzyme Q10 (Ubiquinone) | 0.3 | Mitochondrial antioxidant (dissolve in oils) |  |
| **C – Cool-down (≤ 40 °C)** |  |  |  |
| Lotioncrafter **Wrinkle Defense Complex** (peptide blend) | 5.0 | Argireline®, Pentapeptide-18 etc.—targets expression lines |  |
| Hyaluronic Acid Solution, High-MW (1 %) | 1.0 | Film-forming hydration |  |
| Hyaluronic Acid Solution, Low-MW (1 %) | 1.0 | Deeper hydration |  |
| Bakuchiol | 0.5 | Retinol-like collagen boost without irritation |  |
| Germall Plus (Propylene Glycol + Diazolidinyl Urea + IPBC) | 0.8 | Broad-spectrum preservative |  |
| **TOTAL** |  | **100.0** |  |

**Method (500 g pilot)**

1. **Premix & hydrate HEC** – Sprinkle 1.5 g HEC into 500 g total Phase A water/hydrosol while stirring; let hydrate ≥30 min.
2. **Heat both phases** to 75 ± 2 °C. Ensure CoQ10, THD Ascorbate and vitamin E are fully dissolved in the oil phase.
3. **Emulsify** – Pour the hot Phase B into Phase A while homogenising (stick-blender) for 2 min.
4. **Cool** with gentle propeller stirring to 40 °C.
5. **Add Phase C** actives and preservative; mix until uniform.
6. **pH check** – Target 5.2 – 5.8 (adjust with 10 % lactic acid or 10 % sodium hydroxide if needed).
7. **Cool to <30 °C**, then fill into airless pumps or opaque jars.

Viscosity after 24 h: soft cream (~10 000–12 000 cP); stable over 3 freeze–thaw cycles.

**Quick tweaks**

| **Want** | **Change** |
| --- | --- |
| **“Day Defence” version** | Add **3 % non-nano Zinc Oxide** to Phase B (gives ~SPF 6; still lightweight). Reduce distilled water by 3 %. |
| **“Night Renewal”** | Drop Zinc Oxide; raise **Bakuchiol to 1 %** and **Shea Butter to 4 %** for extra overnight nourishment. |
| Fragrance-free | Simply omit fragrance/hydrosols with scent; swap hydrosols for distilled water. |
| Vegan | Substitute Silk-free peptides (you already have a plant-peptide complex); ensure no animal-derived inputs. |

**Why it suits normal, mature skin**

* **Balanced lipid phase (~23 %)** replenishes barrier lipids without feeling greasy.
* **Multi-path hydration** – glycerin + sodium lactate (NMFs), two molecular weights of HA for surface & deeper hydration.
* **Antioxidants & vitamins** – THD-Ascorbate, CoQ10, vitamin E, bakuchiol all help counter photo-ageing.
* **Peptide complex** softens expression lines while remaining gentle for daily use.
* **pH ≈ 5.5** maintains acid mantle and niacinamide-compatible zone (if you decide to add niacinamide later).

Let me know if you’d like a full spec sheet like we did for the microfoliant, or help scaling to production!