STANDARD OPERATING PROCEDURE (SOP)

Epson EcoTank L121 Sublimation Printing & Maintenance

Preventive Care, Ink Handling & Color Workflow Guidelines for Winnerjet Sublimation Ink

Document Control & Applicability			
Document ID	SOP-WJ-L121-001	**Effective Date**	November 2026
Printer Model	Epson EcoTank L121 (CMYK, 3.0 pl)	**Consumable**	Winnerjet Sublimation Ink
Target Operators	Print Shops, POD & Custom Gift Studios	**Color Profile**	Printer Built-In ICC (No Extra ICC)

1. Purpose & Scope

This Standard Operating Procedure (SOP) defines mandatory ink handling, print setup, and preventive maintenance routines for the **Epson EcoTank L121** converted for dye-sublimation printing with **Winnerjet Sublimation Ink**. Following these standards prevents nozzle clogging, extends the service life of the 3.0 pl Micro Piezo printhead and waste-ink pads, and ensures repeatable transfer color accuracy.

2. Mandatory Safety & Usage Rules

Critical Operator Warnings

1. **Do Not Mix Inks:** Fill Winnerjet Sublimation Ink into a **brand-new Epson L121** prior to initial ink charging. Never mix sublimation ink with standard OEM dye ink (Epson 664) or pigment ink; chemical reactions between incompatible additives will cause immediate flocculation and permanently clog the printhead. If converting a used printer, flush the tanks, CISS tubes, dampers, and printhead thoroughly with cleaning solution first.
2. **Approved Transfer Substrates:** Use exclusively on **100% polyester fabrics** (or high-polyester blends ≥ 65%) and **polymer-coated hard blanks** (ceramic mugs, tumblers, aluminum panels, rock slates, mouse pads, keychains). Not suitable for untreated 100% cotton without sublimation HTV or coating.

3. Initial Setup & Driver Configuration

- **Direct Tank Refilling:** Gently swirl (do not violently shake) Winnerjet sublimation ink bottles for 5–10 seconds before opening to ensure uniform sub-micron dye dispersion. Remove the rubber plugs on the L121 external ink tanks, pour directly using the pointed nozzle up to the upper fill line, and reseat the plugs firmly.
- **Paper & Quality Settings:** In the Epson print driver, set *Paper Type* to **Epson Matte** or **Presentation Paper Matte**, and set *Quality* to **High**. Disable *High Speed / Bidirectional* printing to eliminate micro-banding and preserve crisp edges.
- **Color Management & Mirroring:** Use the printer's **original built-in ICC profile** (Winnerjet ink is pre-calibrated for neutral deep blacks without third-party ICC files). Always enable **Mirror Image** before printing.

4. Preventive Maintenance Schedule

Frequency	Maintenance Task	Standard Procedure & Acceptance Criteria
Before Every Job	Nozzle Check & Visual Verification	Run a standard **Nozzle Check** from the printer utility. Confirm 100% unbroken stair-step lines across all 4 color channels (357 nozzles total) before launching production runs.
Every 2–3 Days (Idle Periods)	Anti-Drying Purge Print	When no customer orders are scheduled, print a full-width **CMYK color purge strip** on plain paper every 48–72 hours. This circulates fresh ink through the nozzles and prevents crusting without filling the waste-ink pad.
Weekly	Ink Level & Vent Seal Inspection	Confirm all 4 external ink tanks remain above the **20% minimum fill line** to avoid drawing air into the CISS lines. Check that all rubber tank plugs are tightly seated.
Monthly	Capping Station & Wiper Cleaning	Unplug the power cord, slide the printhead carriage to the left, and gently swab dried ink residue around the **capping station pad and rubber wiper blade** using a lint-free foam swab dampened with cleaning solution.

5. Troubleshooting & Operating Limits

- **Head Cleaning Limit:** Never run more than **2 consecutive standard Head Cleanings**. If missing segments remain on the nozzle check, power off the printer and let it rest for **2–4 hours** so the ink's humectants can dissolve micro-bubbles, then re-test. Reserve *Power Ink Flushing* strictly for air-locked ink lines.
- **Proper Power-Off Protocol:** Always shut down the Epson L121 via the **front Power Button** rather than unplugging the wall cord. Normal shutdown docks and seals the printhead onto the capping station to prevent air exposure.
- **Environment & Storage:** Maintain ambient temperature at **18°C – 28°C (64°F – 82°F)** and relative humidity at **40% – 60%**. Store sealed ink bottles upright away from direct sunlight and heat press radiation.

6. Reference Heat Press Parameters

Substrate Category	Temperature	Press Time	Pressure & Notes
100% Polyester Apparel	190°C – 200°C (374°F – 392°F)	40 – 50 sec	Medium pressure; pre-press 5 sec to remove moisture
Polymer-Coated Ceramic Mugs	185°C – 195°C (365°F – 383°F)	150 – 180 sec	Medium-firm mug press wrap; peel warm
Coated Aluminum / Metal Panels	190°C – 200°C (374°F – 392°F)	50 – 60 sec	Medium pressure; remove protective plastic film first
Mouse Pads & Neoprene Blanks	185°C – 195°C (365°F – 383°F)	45 – 60 sec	Light-medium pressure to avoid foam compression