

TIPS ON THE CARE AND USE OF ALUMINUM BASE GROOVED PIN REPLICATORS

Disinfecting:

The Aluminum Grooved Pin Replicators can be disinfected by treating in 10% bleach, isopropanol, or flaming isopropanol.

The pins can be cleaned between source plates by dipping briefly in a 10% bleach solution, followed by a series of two sterile dH₂O baths (all in tip lid boxes), then a 99% isopropanol bath. The pins can be air dried or dried using a hair drier or flaming. Between baths, flick off the liquid in the grooves into a sink. This flicking step is very important to reduce carry over. It is important that the pins be dry before going into the next source plate.

Hydrogen peroxide may also be used to disinfect the pins as long as it is rinsed off in distilled water. The % of hydrogen peroxide necessary will vary between applications.

Care:

Before each day's use we recommend that the pins be cleaned with VP 110 Pin Cleaning Solution, which is designed to clean stainless steel and condition the pins. If the pins should be coated with organic material, they can be mechanically cleaned with the VP 425 brush and Ivory dish detergent. If you have access to an ultrasonic bath, we recommend using MICRO 90®, from Cole Parmer®, at a 1/100 dilution in the ultrasonic bath. If you use an ultrasonic bath, hold the Replicator in the bath without letting the pins touch the bottom of the reservoir (the vibrating bottom surface of the sonicator's reservoir may damage the pin tips). The Cole Parmer Catalog #P-08857-02 Ultrasonic Cleaner is ideal for cleaning the Replicators. It is not necessary to clean the replicators in an ultrasonic cleaner if you clean the pins with bleach and brush with detergent after each day's use.

Use:

1. Hold a 96 Grooved Pin Replicator at a 90° angle to the source plate.
2. Raise and lower grooved pins 3 times through the meniscus to load the grooves. The speed at which the pins are removed from the wells will affect the size of the hanging drops at the tip and the liquid on the sides of the pin. Removing the pins quickly from the source plate produces large, hanging drops on the tips of the pins and more liquid on the sides. We recommend removing the pins at a slow even speed each time (~.5 cm/sec). This action produces very uniform transfers from plate to plate and reduces the amount of liquid hanging on the tip and sides of the pins.
3. The liquid is delivered to another microplate containing liquid by dipping and raising the pins 3 times through the recipient plate's meniscus.

Test your Replicator using dye (5% red food coloring) in 10 mM Tris, pH 8.0 with 0.005% Sarcosyl or Tween 20 as wetting agents in water.

Note: If you are having problems with varying volumes of liquid in the grooves, clean the pins with the VP 110 Pin Cleaning Solution. Cleaning with the V&P Pin Cleaning Solution will reduce the surface tension on the pin, and this will solve 99% of your pin loading problems. Also, you can add 0.005% Sarcosyl, Tween 20, protein, or carrier DNA to lower the liquid surface tension.

Warning:

Do not soak in bleach solutions for long periods of time as this can corrode the stainless-steel pins.

Do not soak in deionized water as this can corrode the stainless-steel pins.