



2007/7/1

New Disposable Eco-cups and sticks are released on July 1, 2007.

The new disposable Eco-Cups and sticks for the pyrolyzer are now available. Effective immediately, these new products will be included in all shipments of Pyrolyzers and Auto-shot samplers. The old style Ultra Alloy cups and sticks will be available until December 31, 2007. Flow-through Ultra ALLOY Eco-cups will continue to be available.

The following table lists the part numbers for the new Eco-cups and sticks. A cross-reference to the existing Ultra ALLOY cups is shown.

Ultra Alloy (discontinued on Dec. 31, 2007)		Replace with	New Parts (immediate availability)	
P/N	Description		P/N	Description
PY1-EC50	Eco-cup S (20ea)	⇒	PY1-EC50F	Disposable Eco-cup SF (100ea)
PY1-EC80	Eco-cup L (20ea)	⇒	PY1-EC80F	Disposable Eco-cup LF (100ea)
PY1-EC85	Eco-cup L (50ea)			
PY1-ES10	Eco-stick S (10ea)	⇒	PY1-ES10F	Eco-stick SF (50ea)
PY1-ES20	Eco-stick D (10ea)	⇒	PY1-ES20F	Eco-stick DF (50ea)

<Differences between New and conventional cups>

1 Inertance;

The new, disposable Eco-cups exhibit the same inertness as the Ultra ALLOY cups

2 Surface characteristics;

2.1 **NEW Disposable Eco-cup** -----The stainless steel surface of the new cup is completely covered with a thin layer (< 1 μm) of fused silica. The chemical durability of this silica layer is slightly less than the Ultra ALLOY surface due to different deactivation methods.

2.2 **OLD STYLE Ultra ALLOY Eco-cup** ----- The surface of the stainless steel is deactivated by a series of bonded intermediates. The surface chemistry is consistent with Silicon (Si) and Silicone oxide (SiO₂). The film thickness of Si is less than 0.1 μm and SiO₂ is monolayer. This deactivation process is also used to deactivate the surface of the Ultra ALLOY stainless steel capillary column.

3 Reuse of disposable Eco-cups;

They can be cleaned using a butane flame or a suitable organic solvent for reuse. We have confirmed that the pyrograms of commonly analyzed polymers such as Polystyrene (PS), Polyethylene (PE) and Polycarbonate (PC) are not affected by flame cleaning – up to 5 re-uses. However, excessive heat or extended exposure to elevated flame temperatures may degrade the inertness of the surface. It may also be difficult, depending on the samples analyzed, to eliminate the sample residues completely from the cup. Therefore, the users are encouraged to always consider the stability of the target compounds and the complexity of the matrix when deciding on the numbers of times an Eco-cup can be used without degrading data quality.

4 The advantages of new disposal Eco-cup;

4.1 Carry over is eliminated.

4.2 Eco-cups are reusable; the number of analysis/cup is a function of the sample matrix and compounds of interest (refer to 3 above).

4.3 Cost / analyses is about the same as the Ultra ALLOY cup, assuming 4-6 uses/cup.

Period