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Smart Notes

Q A

Can I freeze a Samco™ Clicktainer Vial™?

Yes. Thermo Scientific™ Samco™ Clicktaiiner™ Vials can withstand multiple freeze/thaw cycles at –20°C and –80°C and still maintain performance.

Background

The Samco Clicktainer Vials (**Cat. No. 120ORG53-1000**) are specimen collection devices that are designed with a multi-click cap closure system, that ensures the container is leakproof* and the sample is safe. The Samco Clicktainer Vials are used in various specimen collection applications such as hospitals, clinics, in-home test kits, and in many other instances where samples are being collected. In some cases, the samples collected may need to be temporarily frozen before using them in further downstream analysis, for instance, during shipment or while in queue for testing. The purpose of this study was to determine the performance of the Samco Clicktainer specimen containers after multiple freeze/thaw cycles at –20°C and –80°C.

Materials and methods

The Samco Clicktainer vials (n = 10 per temperature) were filled to 80% working volume (100 mL) with synthetic urine containing 1% fluorescein-dextran solution to mimic a patient's sample. All caps were closed according to instructions for use and placed at –20°C and –80°C for 6 days. After incubation, the vials were removed and left at room temperature until fully thawed. Passive leakproof testing was performed using a gravity-induced method that determines seal integrity through the detection of the fluorescein-dextran solution outside the vials using a fluorescent light. In addition, visual inspections were performed to look for defects in vials after freeze/thaw. This was repeated four additional times for a total of five freeze/thaw cycles.

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S C I E N T I F I C

	−20°C results		−80°C results	
	Leak test	**Visual inspection**	**Leak test**	**Visual inspection**
Week 1	Pass (100%)	Pass	Pass (100%)	Pass
Week 2	Pass (100%)	Pass	Pass (100%)	Pass
Week 3	Pass (100%)	Pass	Pass (100%)	Pass
Week 4	Pass (100%)	Pass	Pass (100%)	Pass
Week 5	Pass (100%)	Pass	Pass (100%)	Pass

Figure 1. Results of the leak test and visual inspections on the Samco Clicktainer Vials after five freeze/thaw cycles at −20°C and −80°C.

Results and conclusions

There were no failures in leakproof testing or the visual inspections after subjecting the vials to freeze/thaw cycles at −20°C and −80°C (Figure 1). This indicates that the Samco Clicktainer Vials can withstand up to five freeze/thaw cycles and continue to maintain performance under these conditions. This key attribute of the Samco Clicktainer Vials could help in handling critical samples that may need to be frozen before downstream analysis. It is important to note that the actual the results from this study can be used as a guideline and that sample type and freezing conditions should be tested before use.

* The term "leakproof" applies to the Samco Clicktainer products, 90 mL/53 mm and 120 mL/53 mm, that meet the following criteria: leak testing in accordance with BS EN 14254, which involves filling the container with a dye, placing for 2 minutes on a roller mixer followed by inverting the container for 1 hour in a water bath with no leakage. Note: These tests, may not yield the same results when other liquids are used. To ensure safe usage, customers are advised to test Samco Clicktainer Vials under conditions of their planned applications. The Samco Clicktainer Vials are leakproof at ambient temperature and pressure when used with their Samco Clicktainer closures.

Find out more at **thermofisher.com/clicktainer**

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