Drop Test Performance of Corning® PET and Competitor PETG Bottles

Application Note

CORNING

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Introduction

Polyethylene terephthalate (PET) and Polyethylene Terephthalate Glycol (PETG) bottles are both recommended for storage of media and sera for cell culture applications. This study sought to determine if there is any difference in the mechanical performance of PET and PETG bottles when used to store frozen solutions down to -70°C.

Materials and Methods

Bottle Samples

- Corning PET octagonal bottle, 1L (Corning Cat. No. 432334)
- Competitor PETG square bottle, 1L

Sample Preparation

Thirty samples of each bottle type were filled with 1L of solution comprised of 1 g/L of glucose and 9 g/L of NaCl. This solution was used to mimic typical cell culture preparations. The bottles were capped according to the manufacturer's torqueing specifications using a Steinfurth torque measuring instrument. The bottles were placed upright in a -70°C freezer for 48 hours and then transferred to a -40°C freezer for 48 hours.

Drop Testing

The bottles were removed from the -40°C freezer and immediately dropped one time from 910 mm (35.8 inches) onto a steel surface attached to a concrete block in accordance with ISO 2248 and ASTM D 5276 standards. Bottles were dropped in a controlled orientation, with a large side face making initial impact, using a Lansmont drop tester. After the drop test, a visual inspection of the bottle was performed to assess bottle integrity while still frozen and after thawing.

Results

No failure or leakage was observed after drop testing frozen Corning PET octagonal bottles or the competitor PETG square bottles.

Summary and Conclusions

The mechanical performance of Corning PET octagonal bottles is comparable to that of the competitor PETG square bottles for storing frozen liquid. Corning PET octagonal bottles are suitable for storage of frozen media, sera, and other aqueous solutions down to -70°C.

For more specific information on claims, visit the Certificates page at **www.corning.com/lifesciences**.

For additional product or technical information, visit **www.corning.com/lifesciences** or call 800.492.1110. Outside the United States, call +1.978.442.2200 or contact your local Corning sales office.

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