

New Storage Mat Applicator System Meets Customers' Strict Storage Requirements

New Storage Mat

Cat. No. 3080

Anticipated Release Date: March 1999

Features Tighter Fitting Plugs for Reduced Moisture Exchange

A prime concern with storing valuable samples is ensuring sample concentrations remain unchanged over time. Sample concentrations will be significantly altered if moisture exchange occurs with the outside atmosphere. Minimal moisture exchange is especially critical with the commonly used solvent dimethyl sulfoxide (DMSO) because its hygroscopic nature causes it to rapidly absorb water from air. Corning's new storage mat applicator system effectively minimizes moisture exchange.

Moisture Exchange Study at 4°C

Each well of our round bottom polypropylene 96 well plate (Cat. No. 3365) was filled with 15 μL DMSO. The plates were sealed with our new prototype mat (Cat. No. 3080) using the mat applicator and stored at 4°C with an average relative humidity of 43%. The percent increase in mass of DMSO for the plates was determined after 33 days. As indicated in Figure 1, moisture exchange remained below 0.1% demonstrating a clear advantage over a widely used competitor's mat.

Moisture Exchange Dependent on Headspace

Corning® offers a wide variety of storage products compatible with the new mat applicator system. When choosing a

storage block, customers must consider both headspace and cross contamination issues.

The air trapped inside the storage plate (headspace) can alter sample concentrations due to moisture exchange. The effect of headspace on moisture exchange was studied using our 0.5 mL storage blocks (Cat. Nos. 3957/3956) filled with either 100 μL /well or 500 μL /well DMSO. The blocks were stored for 83 days at 4°C with a relative humidity of 65% to 95%. As indicated in Figure 2, moisture exchange was lower with the 500 μL volume due to the lower volume of headspace. We recommend using a storage plate for sample volumes of 100 μL or less.

Eliminate Cross Contamination

Cross contamination can be a major problem when retrieving stored samples. Corning's new mat has shallow plugs that leave space over the recommended volume in each well. To eliminate cross contamination we suggest the following:

Figure 1. Percent Moisture Exchange Using 3080 Prototype Mat Design

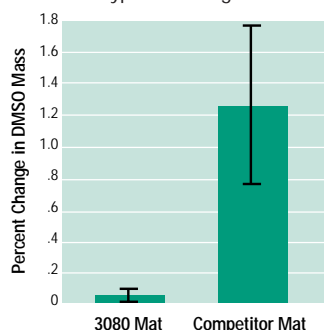
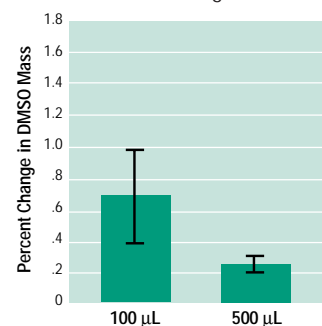


Figure 2. Effect of Headspace on Moisture Exchange



- Do not exceed the recommended volume of each storage block.
- Allow storage blocks to come to room temperature.
- Briefly centrifuge the blocks (1,000 x g or less) to bring down any displaced liquid on the side of the wells.
- Slowly remove the mat diagonally across the plate.

New Storage Mat Applicator

Cat. No. 3081

Anticipated Release Date: February 1999

Features Variable Resistance Dial to Seal Multitude of Blocks and Plates

When preparing and reformatting compound and genomic libraries, the need for a durable, versatile mat applicator is crucial. The new Storage Mat Applicator features a dial-up adapter plate to give the flexibility you need in applying the appropriate pressure when you need it. Life cycle tested to withstand 50,000 applications, the mat applicator has been reinforced with a thicker gauge handle.

Products Compatible with the New Mat Applicator System*

Product	Cat. No.
Costar® Brand 96 Well Polypropylene Plates	
Flat Bottom	3364
V-Bottom	3363
V-Bottom, sterile	3357
Round Bottom	3365
Round Bottom, sterile	3359
Costar® Brand 96 Well Blocks	
0.5 mL Block	3957
0.5 mL Block, sterile	3956
1 mL Block (formerly 431195)	3959
1 mL Block, sterile (formerly 431139)	3958

*Note: Customers who purchased the green Storage Mat Applicator (Cat. No. 3093) will be issued a free Storage Mat Applicator (Cat. No. 3081) starting in January 1999.

For further information, please feel free to contact:

Phil Weiland, Product Manager, Corning Incorporated,
Science Products Division, Advanced Life Science Products
(USA), Tel: 978-635-2236, Fax: 978-635-2479,
e-mail: weilandpr@corning.com

Corning Incorporated

Science Products Division

Advanced Life Science Products
45 Nagog Park, Acton, MA 01720
Tel: 800-492-1110
www.scienceproducts.corning.com

CORNING
The Most Trusted Tools of Science

Corning Incorporated, One Riverfront Plaza, Corning, New York 14831-0001

Corning and Costar are registered trademarks of Corning Incorporated, Corning, NY.