DryEase® Mini-Gel Drying System

For even, crack-free drying of mini-gels

Catalog Numbers NI2387, NI2380

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Kit Contents and Storage

Types of Kits

This manual is supplied with the following products:

<table>
<thead>
<tr>
<th>Product</th>
<th>Catalog no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DryEase® Mini-Gel Drying System</td>
<td>NI2387</td>
</tr>
<tr>
<td>DryEase® Mini-Gel Drying Frame</td>
<td>NI2380</td>
</tr>
</tbody>
</table>

Kit Contents

The DryEase® Mini-Gel Drying Frame contains 4 frames and 8 clamps.

The components of the DryEase® Mini-Gel Drying System are listed below. Store the Gel-Dry™ Drying Solution at room temperature. The solution is stable for one year when stored properly.

<table>
<thead>
<tr>
<th>Components of the DryEase® Mini-Gel Drying System</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>DryEase® Mini-Gel Dryer Frame</td>
<td>2 each</td>
</tr>
<tr>
<td>DryEase® Mini-Gel Dryer Base</td>
<td>1 each</td>
</tr>
<tr>
<td>DryEase® Mini Cellophane</td>
<td>200 pre-cut sheets</td>
</tr>
<tr>
<td>Gel-Dry™ Drying Solution (1X)</td>
<td>500 mL</td>
</tr>
<tr>
<td>Gel-Dryer Clamps</td>
<td>8 each</td>
</tr>
</tbody>
</table>

Gel-Dry™ Drying Solution

The Gel-Dry™ Drying Solution contains a proprietary non-glycerol component to effectively regulate the rate of drying and prevent cracking. The gel drying solution does not interfere with autoradiography. Ordering information is provided on page 5.

Product Use

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

WEEE (Waste Electrical and Electronic Equipment) symbol indicates that this product should not be disposed of in unsorted municipal waste. Follow local municipal waste ordinances for proper disposal provisions to reduce the environmental impact of WEEE.
Introduction

Product Description

DryEase® Mini-Gel Drying System

The DryEase® Mini-Gel Drying System is a fast and easy way to consistently dry mini-gels without cracking. Gels dry by passive evaporation overnight on your bench top, eliminating the need for expensive heat or vacuum dryers. Gels dried with the DryEase® Mini-Gel Drying System are suitable for fluorography, photography, densitometry, autoradiography, or permanent gel storage.

Product Specifications

- Inside Frame Dimensions: 10 cm × 10 cm
- Base Dimensions: 18 cm × 18 cm × 4.5 cm
- Gel Capacity: 1 mini gel
- Cellophane Dimensions: 12 cm × 12 cm
- Pore Size of Cellophane: 40 microns

Materials and Maintenance

- Frame material: Polycarbonate
- Base material: High Impact Styrene

Chemical resistance
Parts are impervious to alcohol. Do not use with organic solvents such as acetone or toluene.

Maintenance
To clean the frames, clamps, and base, rinse in deionized water and a mild detergent.

Clamp Maintenance
To restore clamps to their original shape, dip them in hot water and bend the clamps back into shape.

Compatibility with Autoradiography

The Gel-Dry™ Drying Solution used in the DryEase® Mini-Gel Drying System is compatible with the enhancers used for autoradiography.

After electrophoresis is complete, incubate the gel in the desired enhancer (follow manufacturer’s recommendations) and then wash the gel thoroughly in deionized water. Proceed with drying the gel as described in the protocol (page 2).

The cellophane does not interfere in detecting the signal using 32P. Depending on the type of enhancer used for autoradiography, you may need to remove the upper layer of the cellophane to detect the signal using 35S.
Methods

Gel Drying Protocol

Materials Needed

- Deionized water
- StainEase® Gel Staining Tray (see page 5 for ordering information) or a round covered container
- Gel Knife or razor blade

If you have ordered DryEase® Mini-Gel Drying Frame, the following additional items are also needed:

- DryEase® Mini-Gel Drying Base (see page 5)
- DryEase® Mini Cellophane (see page 5)
- Gel-Dry™ Drying Solution (or prepare a solution containing 30% methanol and 5% glycerol)

Procedure

1. After completion of staining and destaining steps, wash the destained gel(s) three times for two minutes each time in deionized water (50 mL per mini-gel) on a rotary shaker.

2. Decant the water and add fresh Gel-Dry™ Drying Solution (35 mL per mini-gel).

3. Equilibrate the gel in the Gel-Dry™ Drying Solution by shaking the gel for 15–20 minutes in the StainEase® Gel Staining Tray or in a round covered container.

   Note: If drying gels stained with Colloidal Blue Stain or SimplyBlue™ SafeStain, equilibrate the gel in the Gel-Dry™ Drying Solution for only 5 minutes. Gels left in Gel-Dry™ Drying Solution for longer than 5 minutes lose band intensity and detection limits may decrease.

4. Cut any rough edges off the gel (including the wells and the gel foot) using the Gel Knife or a razor blade.

   Note: Be sure to push the blade perpendicularly through the gel to prevent generating any tears on the gel that can act as a starting point for crack formation during drying.

5. Remove 2 sheets (per gel) of cellophane from the package.

Continued on next page
Procedure, continued

6. Immerse one sheet of cellophane at a time in the Gel-Dry™ Drying Solution, making sure to cover both sides of the sheet with solution. Allow 15–20 seconds for complete wetting before adding additional sheets. Do not soak the cellophane sheets for more than 2 minutes.

7. Place one side of the DryEase® Gel Drying Frame with the corner pin facing up, on the DryEase® Gel Drying Base.

8. Center a piece of pre-wetted cellophane from Step 6 over the base/frame combination, so the cellophane lays over the inner edge of the frame.

9. Lay the gel on the center of the cellophane sheet making sure no bubbles are trapped between the gel and the cellophane. Add some Gel-Dry™ Drying Solution to the surface of the cellophane, if necessary.

10. Carefully lay the second sheet of cellophane over the gel so that no bubbles are trapped between the cellophane and the gel. Add some Gel-Dry™ Drying Solution if necessary. Gently smooth out any wrinkles in the assembly with a gloved hand.

11. Align the remaining frame so that its corner pins fit into the appropriate holes on the bottom frame. Push the plastic clamps onto the four edges of the frames.

12. Lift the frame assembly from the DryEase® Gel Drying Base and pour off the excess solution from the base.

13. Stand the gel dryer assembly upright on a bench top. Be careful to avoid drafts as they can cause an uneven rate of drying which leads to cracking. Drying takes between 12–36 hours depending on humidity and gel thickness.

Note: Do not leave gels on the frame for longer than 48 hours, as cracks may form in the gel.

14. When the cellophane is dry to touch, remove the gel/cellophane sandwich from the drying frame.

15. Trim off the excess cellophane.

16. Press the dried gel(s) between the pages of a notebook under light pressure for approximately 2 days so that gels remain flat for scanning, photography, display, and overhead projection.
## Troubleshooting

<table>
<thead>
<tr>
<th>Observation</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gels falling apart in stain/destain</td>
<td>• Shaking motion too vigorous</td>
<td>• Decrease shaker speed and use round container for shaking.</td>
</tr>
<tr>
<td></td>
<td>• Sharp utensils used to transfer gel</td>
<td>• Use smooth plastic utensil.</td>
</tr>
<tr>
<td>Gels cracking during drying</td>
<td>• Air trapped between cellophane layers</td>
<td>• Apply adequate Gel-Dry™ Drying Solution. Gently smooth out any bubbles in the assembly with a gloved hand.</td>
</tr>
<tr>
<td></td>
<td>• Strong tension on cellophane</td>
<td>• Do not stretch cellophane on the frame.</td>
</tr>
<tr>
<td></td>
<td>• Rough edges or small cracks on gel</td>
<td>• Trim rough edges and small cracks.</td>
</tr>
<tr>
<td></td>
<td>• Uneven clamping pressure</td>
<td>• Place clamps evenly around frame.</td>
</tr>
<tr>
<td></td>
<td>• Gel was not adequately soaked in Gel-Dry™ Drying Solution</td>
<td>• Equilibrate the gel in Gel-Dry™ Drying Solution for 20 minutes.</td>
</tr>
<tr>
<td>Gels turning white after drying</td>
<td>• Gels drying too fast</td>
<td>• Remove the gel from any drafts.</td>
</tr>
<tr>
<td></td>
<td>• Drying in less than 30% humidity</td>
<td>• Rehydrate the gel with deionized water while the gel is still on the frame.</td>
</tr>
</tbody>
</table>
## Appendix

### Accessory Products

The table below lists additional products that may be used for staining or drying the gel.

<table>
<thead>
<tr>
<th>Product</th>
<th>Quantity</th>
<th>Catalog no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SilverQuest™ Silver Staining Kit</td>
<td>1 kit</td>
<td>LC6070</td>
</tr>
<tr>
<td>SimplyBlue™ SafeStain</td>
<td>1 L</td>
<td>LC6060</td>
</tr>
<tr>
<td>SilverXpress® Silver Staining Kit</td>
<td>1 kit</td>
<td>LC6100</td>
</tr>
<tr>
<td>Colloidal Blue Staining Kit</td>
<td>1 kit</td>
<td>LC6025</td>
</tr>
<tr>
<td>DryEase® Mini-Gel Drying Frame</td>
<td>2/pk</td>
<td>NI2380</td>
</tr>
<tr>
<td>DryEase® Mini-Gel Drying Base</td>
<td>1 each</td>
<td>NI2300</td>
</tr>
<tr>
<td>DryEase® Mini Cellophane</td>
<td>200/pk</td>
<td>NC2380</td>
</tr>
<tr>
<td>Large Gel Drying Frame</td>
<td>1 each</td>
<td>NI2200</td>
</tr>
<tr>
<td>Large Cellophane</td>
<td>100/pk</td>
<td>NC2200</td>
</tr>
<tr>
<td>Gel-Dry™ Clamps</td>
<td>1 each</td>
<td>NI2100</td>
</tr>
<tr>
<td>Gel-Dry™ Drying Solution (1X)</td>
<td>500 mL</td>
<td>LC4025</td>
</tr>
<tr>
<td></td>
<td>8 × 500 mL</td>
<td>LC4025-4</td>
</tr>
<tr>
<td>StainEase® Staining Tray</td>
<td>2/pack</td>
<td>NI2400</td>
</tr>
</tbody>
</table>
Technical Support

Obtaining support

For the latest services and support information for all locations, go to www.lifetechnologies.com/support.

At the website, you can:

- Access worldwide telephone and fax numbers to contact Technical Support and Sales facilities
- Search through frequently asked questions (FAQs)
- Submit a question directly to Technical Support (techsupport@lifetech.com)
- Search for user documents, Safety Data Sheets (SDSs), vector maps and sequences, application notes, formulations, handbooks, certificates of analysis, citations, and other product support documents
- Obtain information about customer training
- Download software updates and patches

Safety Data Sheets (SDS)

Safety Data Sheets (SDSs) are available at www.lifetechnologies.com/support.

Certificate of Analysis

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