

USER GUIDE

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by *life* technologies™

# DryEase® Mini-Gel Drying System

For even, crack-free drying of mini-gels

Catalog Numbers NI2387, NI2380

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For Research Use Only. Not intended for any animal or human  
therapeutic or diagnostic use.

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# Kit Contents and Storage

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## Types of Kits

This manual is supplied with the following products:

Product	Catalog no.
DryEase® Mini-Gel Drying System	NI2387
DryEase® Mini-Gel Drying Frame	NI2380

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## 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.

Components of the DryEase® Mini-Gel Drying System	Amount
DryEase® Mini-Gel Dryer Frame	2 each
DryEase® Mini-Gel Dryer Base	1 each
DryEase® Mini Cellophane	200 pre-cut sheets
Gel-Dry™ Drying Solution (1X)	500 mL
Gel-Dryer Clamps	8 each

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## 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.

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## Product Use

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

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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.

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# Introduction

## Product Description

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### 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.

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### 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

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### 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.

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### Compatibility with Auto- radiography

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 <sup>32</sup>P. 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 <sup>35</sup>S.

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# Methods

## Gel Drying Protocol

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### 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)
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### 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.
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## Gel Drying Protocol, continued

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### 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.
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# Troubleshooting

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Observation	Cause	Solution
Gels falling apart in stain/destain	<ul style="list-style-type: none"><li>• Shaking motion too vigorous</li><li>• Sharp utensils used to transfer gel</li></ul>	<ul style="list-style-type: none"><li>• Decrease shaker speed and use round container for shaking.</li><li>• Use smooth plastic utensil.</li></ul>
Gels cracking during drying	<ul style="list-style-type: none"><li>• Air trapped between cellophane layers</li><li>• Strong tension on cellophane</li><li>• Rough edges or small cracks on gel</li><li>• Uneven clamping pressure</li><li>• Gel was not adequately soaked in Gel-Dry™ Drying Solution</li></ul>	<ul style="list-style-type: none"><li>• Apply adequate Gel-Dry™ Drying Solution. Gently smooth out any bubbles in the assembly with a gloved hand.</li><li>• Do not stretch cellophane on the frame.</li><li>• Trim rough edges and small cracks.</li><li>• Place clamps evenly around frame.</li><li>• Equilibrate the gel in Gel-Dry™ Drying Solution for 20 minutes.</li></ul>
Gels turning white after drying	<ul style="list-style-type: none"><li>• Gels drying too fast</li><li>• Drying in less than 30% humidity</li></ul>	<ul style="list-style-type: none"><li>• Remove the gel from any drafts.</li><li>• Rehydrate the gel with deionized water while the gel is still on the frame.</li></ul>

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# Appendix

## Accessory Products

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### Additional Products

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

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

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# Technical Support

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## Obtaining support

For the latest services and support information for all locations, go to [www.lifetechnologies.com/support](http://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](mailto: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
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## Safety Data Sheets (SDS)

Safety Data Sheets (SDSs) are available at [www.lifetechnologies.com/support](http://www.lifetechnologies.com/support).

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## Certificate of Analysis

The Certificate of Analysis provides detailed quality control and product qualification information for each product. Certificates of Analysis are available on our website. Go to [www.lifetechnologies.com/support](http://www.lifetechnologies.com/support) and search for the Certificate of Analysis by product lot number, which is printed on the box.

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# Technical Support, continued

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## Limited Product Warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale found on Life Technologies' website at [www.lifetechnologies.com/termsandconditions](http://www.lifetechnologies.com/termsandconditions). If you have any questions, please contact Life Technologies at [www.lifetechnologies.com/support](http://www.lifetechnologies.com/support).

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# Purchaser Notification

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Research  
Use Only**

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# Notes

# Notes



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