

3M™ Petrifilm plates are a convenient and reliable way to detect environmental microbial contamination. The construction of Petrifilm plates allows them to be used for direct contact or swab contact monitoring procedures, as well as air sampling procedures.

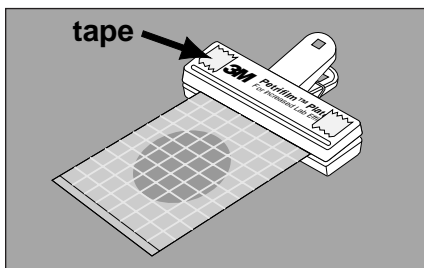
## Hydration Procedures for Air or Direct Contact Methods

Petrifilm Plate	Procedure	Hydration*
Aerobic Count Coliform Count E. coli/Coliform Count Rapid Coliform Count Enterobacteriaceae Count	Air or Direct Contact Method	Hydrate plates with 1 mL of appropriate sterile diluent. Allow hydrated plates to remain closed for a minimum of 1 hour before use.
Staph Express Count	Air or Direct Contact Method	Hydrate plates with 1 mL of appropriate sterile diluent. Refrigerate hydrated plates for a minimum of 3 days before using.
Yeast and Mold Count Rapid S. aureus Count	Air Method Only	Hydrate plates with 1 mL of appropriate sterile diluent. Allow hydrated plates to remain closed for a minimum of 1 hour before use.
Yeast and Mold Count	Direct Contact Method Only	Hydrate yeast and mold plates with 1 mL of sterile <b>letheen broth only</b> . Place letheen inoculated plates into sealed bag and incubate at 30-37°C (86-99°F) for 24 hours. After incubation, store sealed bag of plates in refrigerator for a minimum of 4 hours to allow gel to solidify. Petrifilm plates hydrated with letheen will have a mottled appearance.

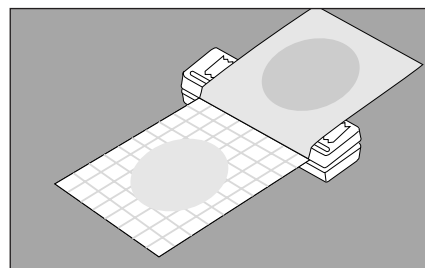
**Hydrated Plates Storage Procedures:** Store all hydrated Petrifilm plates in sealed pouch or plastic bag. Protect plates from light and refrigerate at 2-8°C (36-46°F). Hydrated Petrifilm Aerobic Count plates may be refrigerated up to 14 days, all other hydrated Petrifilm plates may be refrigerated up to 7 days.

*\*See relevant Petrifilm plate package insert for details and listing of appropriate diluents. If sanitizers are present, use letheen broth for both the direct contact and swab contact methods.*

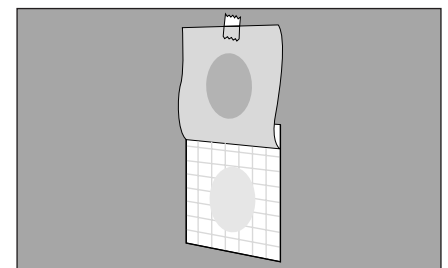
## Air Sampling Method



**1** Use a Petrifilm plate clip in combination with double-sided tape. Position hinged edge of hydrated Petrifilm plate into clip. Apply a small piece of double-sided tape to each end of the clip handle.

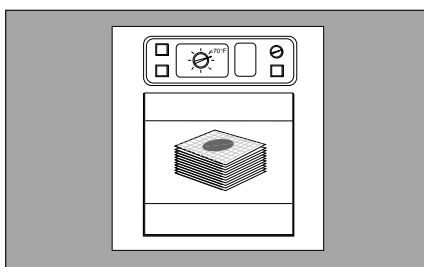


**2** **Without touching circular growth area**, lift top film portion of hydrated plate and peel back until outer portion of film adheres to the tape. Make sure top film lies flat across clip.



**3** Double-sided tape can also be used with or without clip for positioning of Petrifilm plates for air sampling.

Expose Petrifilm plate to air for no longer than 15 minutes. Remove tape and rejoin the top and bottom films.



**4** Incubate and enumerate as directed in package inserts. Refer to 3M *Petrifilm Plate Interpretation Guide* when enumerating results.

### Air Sampling Method Results

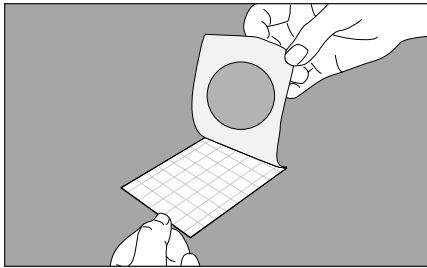
Petrifilm plate result is count/**40 cm<sup>2</sup>** for:

- Aerobic Count
- Coliform Count
- E.coli/Coliform Count
- Rapid Coliform Count
- Enterobacteriaceae Count

Petrifilm plate result is count/**60 cm<sup>2</sup>** for:

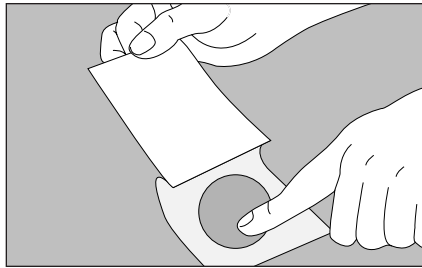
- Yeast & Mold Count
- Staph Express Count
- Rapid S. aureus Count

# Direct Contact Method



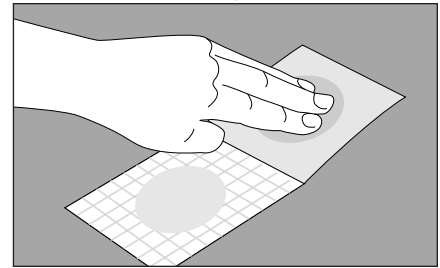
**1** Using a hydrated Petrifilm plate, carefully lift top film. Avoid touching circular growth area. Gel will adhere to top film. Go to step 2a for the surface method or 2b for the finger method.

## Surface



**2a** Allow the circular gel portion of the top film to contact the surface being tested. Gently rub fingers parallel to the surface over the outer film side of the gelled area to ensure good contact with surface. Rejoin the top and bottom films.

## Finger

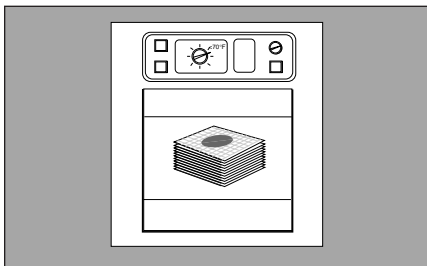


**2b** Touch finger or portion of hand to hydrated gel area. Rejoin the top and bottom films. Wash hands after finger or hand plating.

All Petrifilm plates except Yeast and Mold Count plates and the High-Sensitivity Coliform Count plates can be used for finger or hand plating. The Rapid *S. aureus* Count plates are not suitable for finger, hand or direct contact method plating.

### Petrifilm Yeast and Mold Count Plates

On occasion, the gel may split (adhering to both the top and bottom films) when the top film is lifted. If this happens, the plate with gel splitting may still be used for air testing, but is not recommended for direct contact use.



**3** Incubate and enumerate as directed in package inserts. Refer to 3M *Petrifilm Plate Interpretation Guide* when enumerating results.

### Direct Contact Method Results

Petrifilm plate result is count/**20 cm<sup>2</sup>** for:

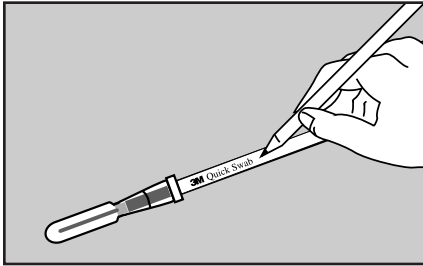
- Aerobic Count
- Coliform Count
- Enterobacteriaceae Count
- E.coli/Coliform Count
- Rapid Coliform Count

Petrifilm plate result is count/**30 cm<sup>2</sup>** for:

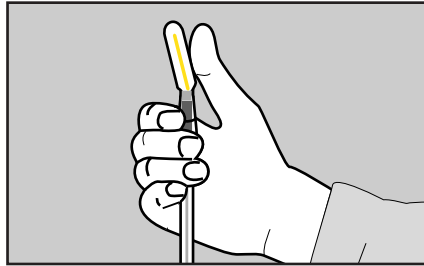
- Yeast & Mold Count
- Staph Express Count

# Swab Method

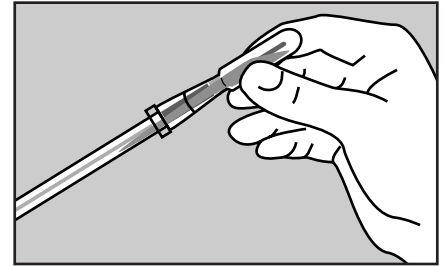
## 3M Quick Swab (wet swabbing method)\*



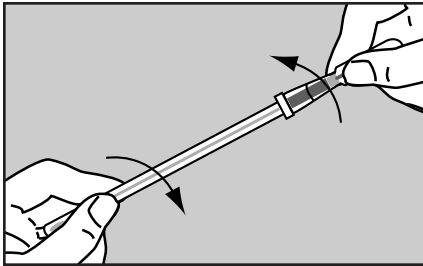
1 Remove the desired quantity of 3M Quick Swabs from the resealable plastic bag. Label the swab.



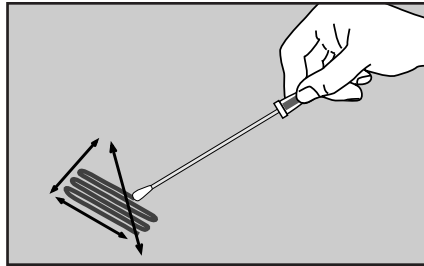
2 **At the sampling location**, prepare the swab by holding it with the bulb end near your thumb. Bend the red snap valve at a 45° angle until you hear the valve break. This allows the letheen broth to flow into the tube and wet the swab head.



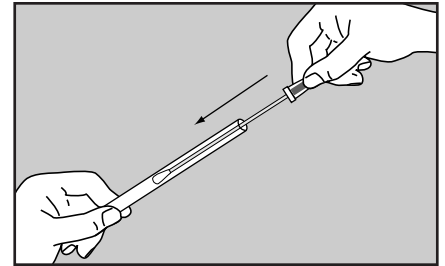
3 Squeeze the bulb of the swab to transfer all of the letheen broth to the tube end of the swab.



4 Twist and pull apart the bulb end of the swab from the tube end of the swab which contains the letheen broth.



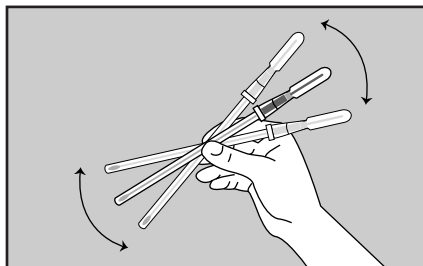
5 Hold the swab handle to make a 30° angle with the surface. Firmly rub the swab head slowly and thoroughly over the desired surface area. Rub the head of the swab three times over the surface, reversing direction between alternating strokes.



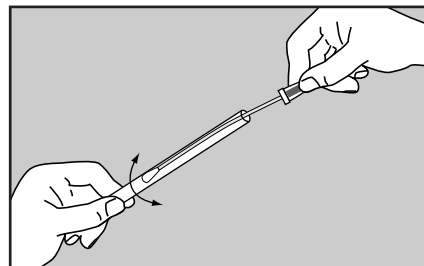
6 After sampling is complete, securely insert the swab head back into the swab tube and transport to the lab for plating. Plate the letheen broth swab solution as soon as possible.

## Inoculation Procedures

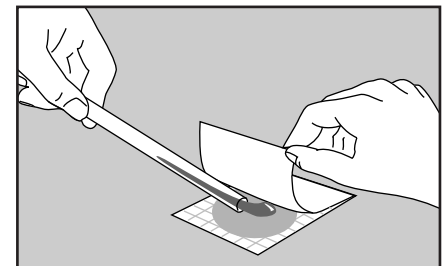
### 1 mL



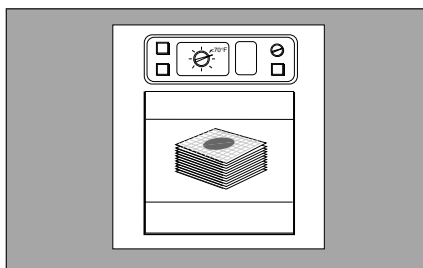
7 In the lab, vigorously shake or vortex the swab for 10 seconds, to release bacteria from the swab tip.



8 Wring out the contents of the swab tip by pressing and twisting the swab against the wall of the tube.



9 Carefully pour entire contents of the tube onto a 1 mL 3M Petrifilm plate. Follow current industry standards for disposal.



10 Incubate and enumerate as directed in package inserts. Refer to 3M *Petrifilm Plate Interpretation Guide* when enumerating results.

## Swab Contact Method Results

Petrifilm plate count x volume of diluent (1 mL) = total count/area sampled

### Example

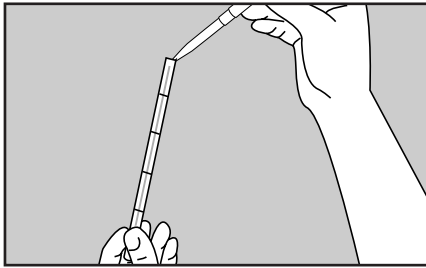
If area tested was 5 cm<sup>2</sup> and number of colonies on plate after incubation was 100, your result would be: 100 CFU x 1 mL = 100 CFU/5 cm<sup>2</sup>

\* For 3M Quick Swab dry swabbing method, see Quick Swab package insert.

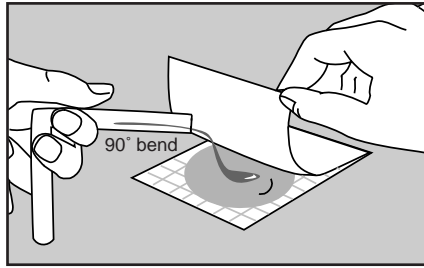
## Inoculation Procedures (continued)

### Multi-mL

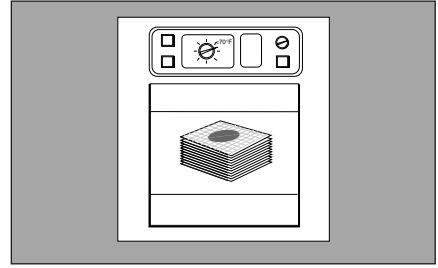
- 1 Complete steps 1-6 for the wet swabbing method from previous page.



- 2 Remove the swab from the tube. Add 1-3 mL's of sterile diluent to the swab tube. Replace the swab in the tube. Complete steps 7 & 8 of the 1 mL Inoculation Procedure from previous page.



- 3 Use your thumb to bend the swab tube at a 90° angle at the highest mark that has diluent above it. Pour off a 1 mL aliquot onto a Petrifilm plate. Repeat onto new plate until the entire sample is used.



- 4 Incubate and enumerate as directed in package inserts. Refer to *3M Petrifilm Plate Interpretation Guide* when reading results.

#### Quick Swab Multi-mL Method Results

Petrifilm plate count x volume of diluent (1 mL + added) = total count/area sampled

#### Example

If area tested was 5 cm<sup>2</sup>, number of mLs added was 2 (for total of 3) and number of colonies after incubation was 100, your result would be: 100 CFU x 3 mL = 300 CFU/5 cm<sup>2</sup>

### Alternative Swab Method

Petrifilm plates can be used with other swabbing techniques, however the rinse solution used must be compatible with Petrifilm plates. (See Petrifilm plate package insert for listing of appropriate diluents).

## Additional Information

3M Microbiology offers a full line of products to accomplish a variety of your microbial testing needs. For more product information, visit us at [www.3M.com/microbiology](http://www.3M.com/microbiology).

- Questions? U.S., call **1-800-328-6553**. To order Petrifilm plates, call **1-800-328-1671**.
- Canada, call **1-800-563-2921** for technical service.
- Latin America / Africa and Asia Pacific regions, call **1-651-733-7562**.

For detailed WARNING, CAUTIONS, DISCLAIMER OF WARRANTIES / LIMITED REMEDY, LIMITATION OF 3M LIABILITY, STORAGE AND DISPOSAL information, and INSTRUCTIONS FOR USE see Product's package insert.

## 3M

#### 3M Microbiology

3M Center, Bldg. 275-5W-05  
St. Paul, MN 55144-1000  
USA  
1-800-228-3957  
microbiology@mmm.com  
[www.3M.com/microbiology](http://www.3M.com/microbiology)

#### 3M Canada

Post Office Box 5757  
London, Ontario N6A4T1  
Canada  
1-800-563-2921

#### 3M Europe

Laboratoires 3M Santé  
Boulevard de l'Oise  
95029 Cergy Pontoise Cedex  
France  
33 1 30 30 85 71



Recycled Paper  
40% pre-consumer  
10% post-consumer

Printed in U.S.A.

© 3M 2003  
70-2008-2412-9 (33.5)ii