



# Petrifilm™

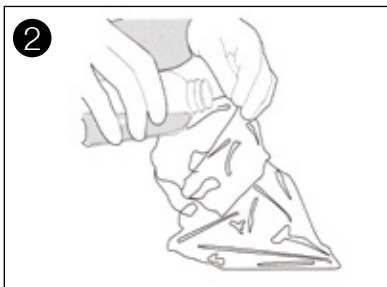
3M™ Petrifilm™ Plates

## Application Guide for use with Dairy & Juice Products

### Sample Preparation



Prepare at least a 1:10 dilution of sample. If greater sensitivity is required, refer to tables on back page. Weigh into an appropriate container such as a stomacher bag, dilution bottle, or other sterile container. High and lowfat milk may be plated directly.

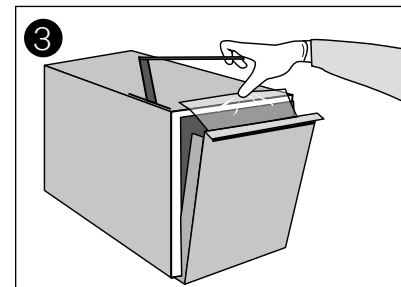


Add appropriate quantity of one of the following sterile diluents: Butterfield's phosphate buffer, 0.1% peptone water, peptone salt diluent, saline solution (0.85 -0.90%), or distilled water.

Do not use buffers containing citrate or sodium thiosulfate, as they inhibit growth.

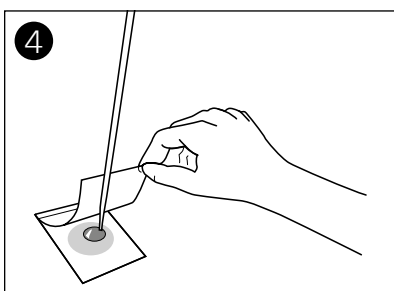
For acidic products adjust pH of the diluted sample with 1N NaOH. For alkaline products adjust pH with 1N HCl.

Refer to product instructions for recommended pH ranges and additional information.



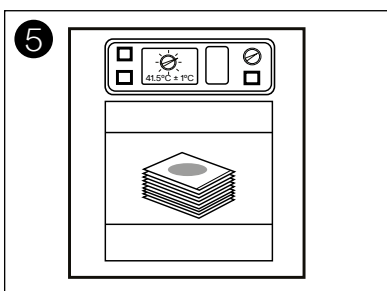
Blend or homogenize sample per current procedure or as described in Standard Methods for the Examination of Dairy Products.

### Inoculation



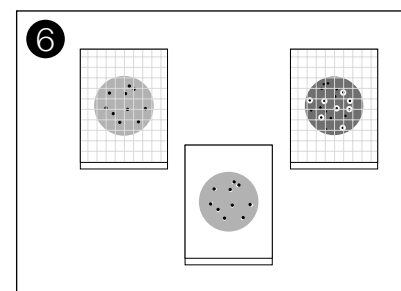
Place appropriate amount of sample homogenate (1 mL or 5 mL) onto each 3M Petrifilm Plate.

### Incubation



Incubate plates with clear side up in stacks of up to 10 or 20 depending on the 3M Petrifilm Plate. Refer to product's instructions for incubation times and temperatures.

### Interpretation



3M Petrifilm Plates can be counted on a standard colony counter or other magnified light source. Refer to product's Interpretation Guide when reading results.

## Table 1: Dairy Products

Minimum Dilution on 3M™ Petrifilm™ Plates

Product	Coliform Count	High-Sensitivity Coliform Count	Yeast & Mold Count <sup>e</sup>
High & Lowfat Milk	undiluted	undiluted	1:5
Heavy & Light Cream	1:5	1:5	1:5
Chocolate Milk	1:10	1:5	1:10
Ice Cream	1:5 / 2:3 <sup>d</sup>	1:5	1:5
Sour Cream, Dips <sup>a</sup>	1:5	1:10	1:10
Buttermilk <sup>a</sup>	1:10	1:10	1:10
Yogurt <sup>a</sup>	1:5	1:10	1:5
Butter, Margarine <sup>b</sup>	1:5	1:5	1:5
Cottage Cheese	1:5	1:10	1:10
Hard & Soft Cheese <sup>c</sup>	1:10	1:10	1:10
Dry Dairy Products	1:10	1:10	1:10

a. For acidic products plated on 3M™ Petrifilm™ High-Sensitivity Coliform Count Plates, adjust pH of the diluted sample to 6.5 to 7.5. For acidic products plated on 3M™ Petrifilm™ Coliform Count Plates, adjust the pH of the sample to 6.6 to 7.2. For most foods use approximately 0.1 mL of 1N NaOH per gram of product. For alkaline products adjust pH with 1N HCl.

b. Homogenization may be facilitated by the use of pre-warmed 40-45° C (104-113° F) buffer.

c. Do not use buffer containing sodium citrate. Studies have shown that 2% sodium citrate inhibits the growth of some bacteria on 3M Petrifilm Plates (see front for diluent options).

d. Please refer to AOAC® *Official Methods of Analysis*<sup>SM</sup> 989.10, Bacterial and Coliform Counts in Dairy Products - Dry Rehydratable Film Methods.

e. pH adjustment not necessary for 3M™ Petrifilm™ Yeast and Mold Count Plates.

## Table 2: Juice Products

Dilution on 3M Petrifilm Plates

Product	Yeast & Mold Count
<b>Single Strength</b>	
Apple	undiluted
Cranberry	1:5
Grape	1:5
Grapefruit	1:5
Orange	1:5
<b>Concentrated</b>	
Apple	1:4
Grape	1:20
Lemonade	1:20
Orange	1:20

## Table 3: Guide to Dilution Preparation

The following table provides instructions for preparing dilutions.

Grams of product				
Diluent	1:4	1:5	1:10	1:20
9 mL	3.0	2.25	1.0	.47
90 mL	30.0	22.25	10.0	4.74
99 mL	33.0	24.75	11.0	5.21
225 mL	75.0	56.25	25.0	11.84
450 mL	150.0	112.50	50.0	23.68

For example: When making a 1:5 dilution using a 99mL dilution bottle, add 24.75 grams of product.

For more information on 3M Petrifilm Plates, visit us at [www.3M.com/foodsafety/Petrifilm](http://www.3M.com/foodsafety/Petrifilm)



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