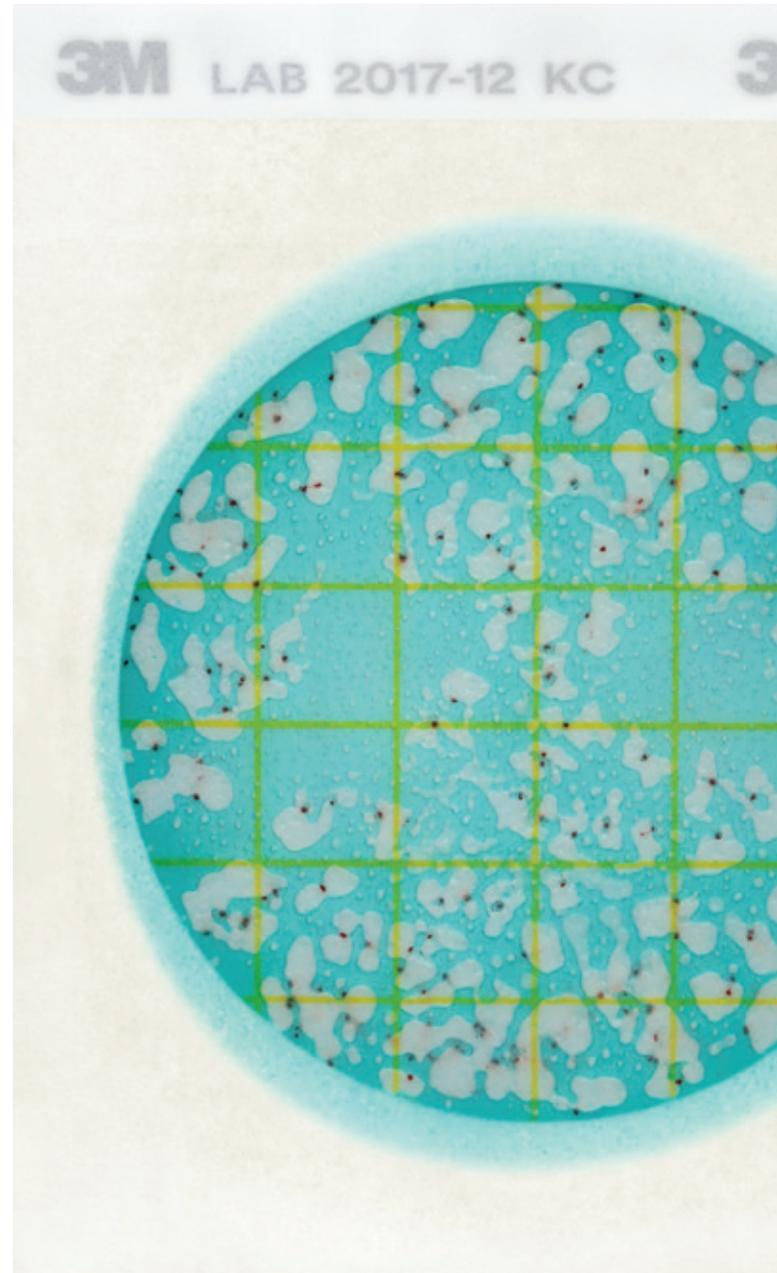


3M™ Petrifilm™ Lactic Acid Bacteria Count Plate

Interpretation Guide

The 3M™ Petrifilm™ Lactic Acid Bacteria Count Plate is a self-contained, sample-ready-culture-medium system which contains nutrients, selective agents, a cold-water-soluble gelling agent, and a tetrazolium indicator that facilitates colony enumeration. The plate contains oxygen scavenging compounds which create an anaerobic environment for the recovery of homofermentative and heterofermentative lactic acid bacteria in the food and beverage industries.



3M™ Petrifilm™ Lactic Acid Bacteria Count Plate

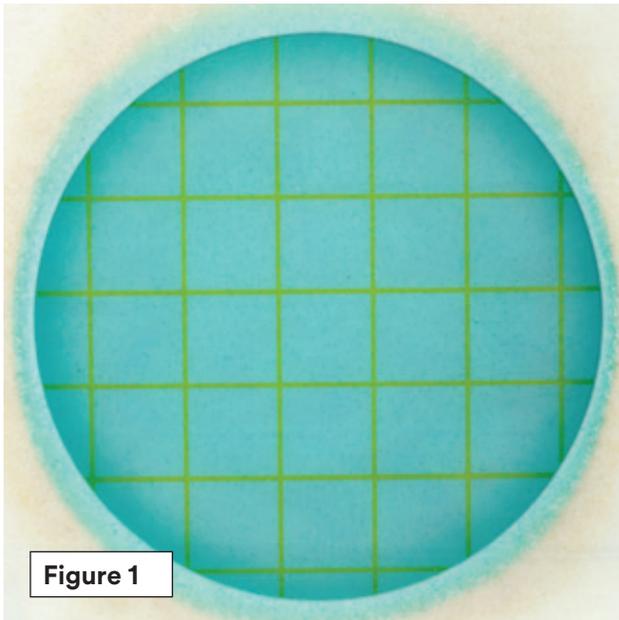


Figure 1

Total lactic acid bacteria count = 0

3M Petrifilm Lactic Acid Bacteria Count Plate without colonies.

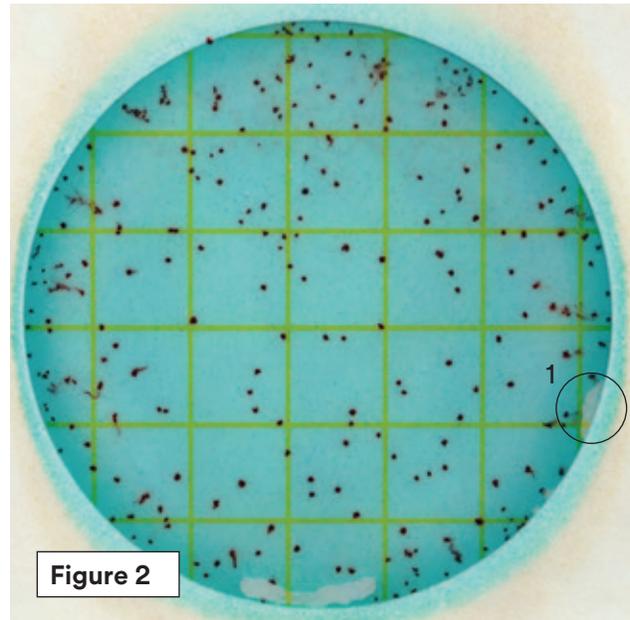


Figure 2

Total lactic acid bacteria count = 236

The preferable counting range is less than 300 colonies without gas. Artifact bubbles may result from improper inoculation (Circle 1) of the 3M Petrifilm Lactic Acid Bacteria Count Plate or from trapped air within the sample. They are irregularly shaped and not associated with a red colony. Do not count colonies on the dam.

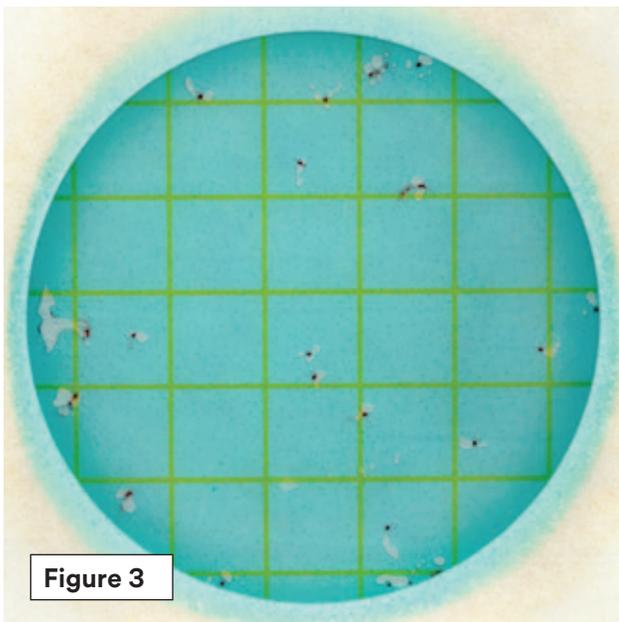


Figure 3

Total lactic acid bacteria count = 24

The preferable counting range is less than 150 colonies with gas. Gas bubble size will vary by size and shape. Gas may disrupt the colony so that the colony "outlines" the bubble.

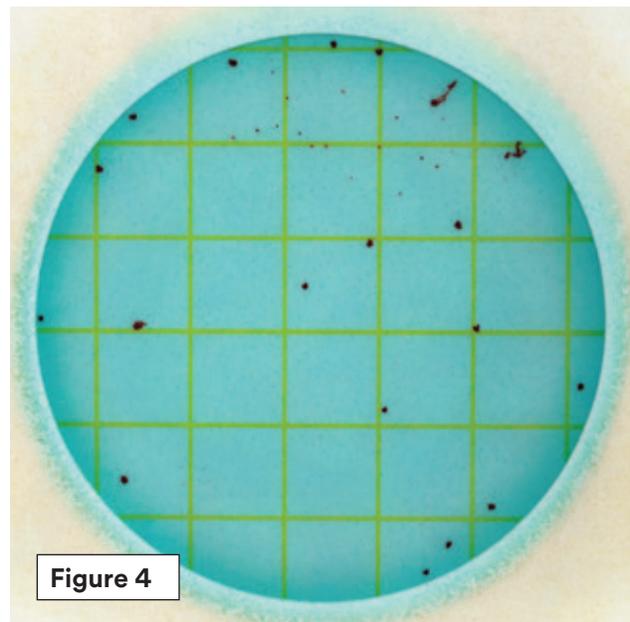


Figure 4

Total lactic acid bacteria count = 38

Count all colonies regardless of size and intensity.

3M™ Petrifilm™ Lactic Acid Bacteria Count Plate

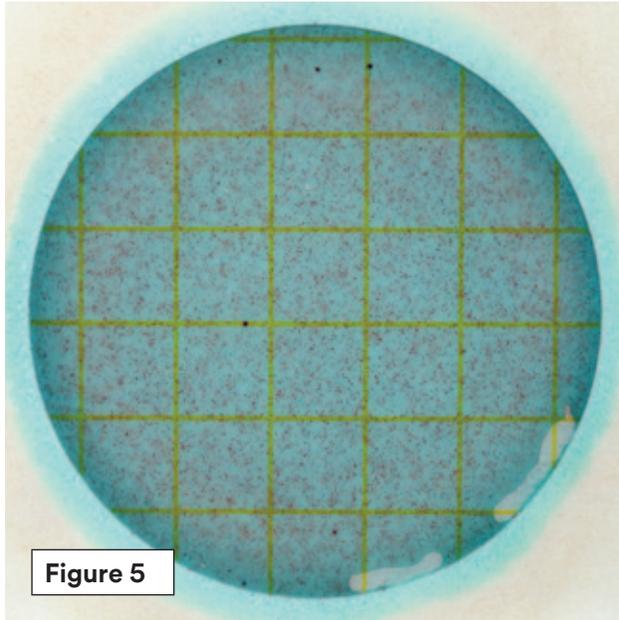


Figure 5

Total lactic acid bacteria count = TNTC

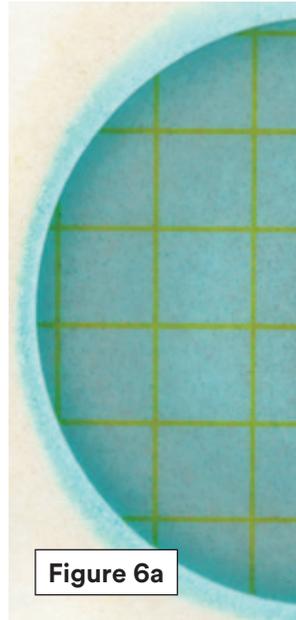


Figure 6a

Total lactic acid bacteria count = TNTC

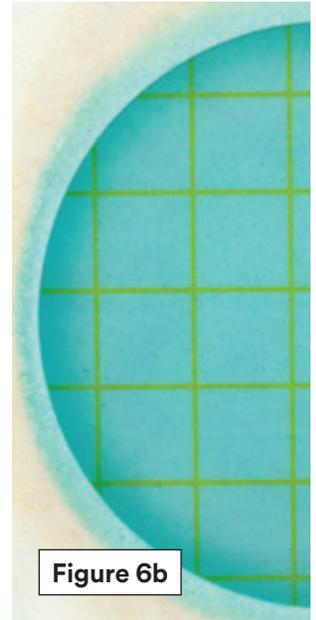


Figure 6b

Total lactic acid bacteria count = 0

3M Petrifilm Lactic Acid Bacteria Count Plates with colony counts too numerous to count (TNTC) may have one or more of the following characteristics: many small colonies, many gas bubbles, and a deepening of the gel color from blue to pink-purple. High concentrations of colonies on the plates will cause the entire growth area to become deep-blue to purple with a pink halo around the outer edge of the plate. Further dilution of the sample may be necessary.

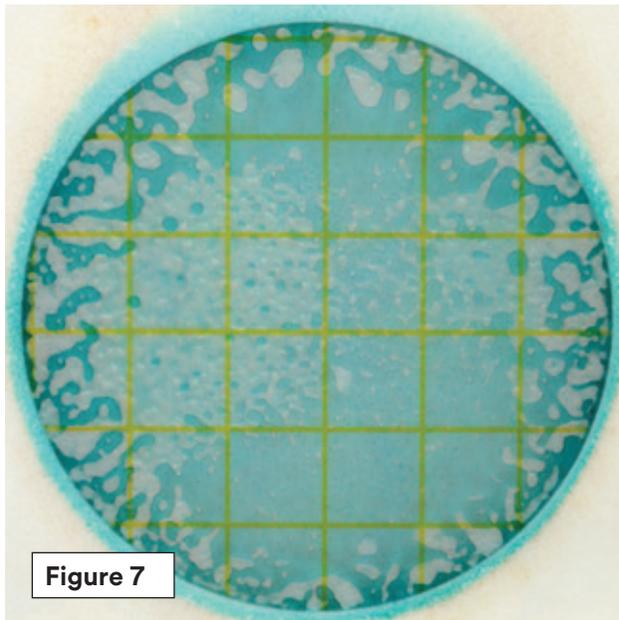


Figure 7

Total lactic acid bacteria count = TNTC

High concentrations of gas producing (heterofermentative) colonies on the 3M Petrifilm Lactic Acid Bacteria Count Plates will result in an irregular distribution of many gas bubbles. Further dilution of the sample may be necessary.

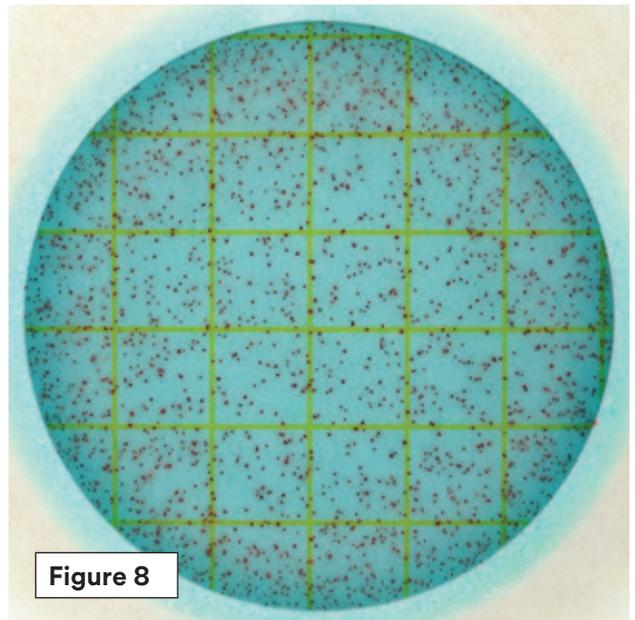
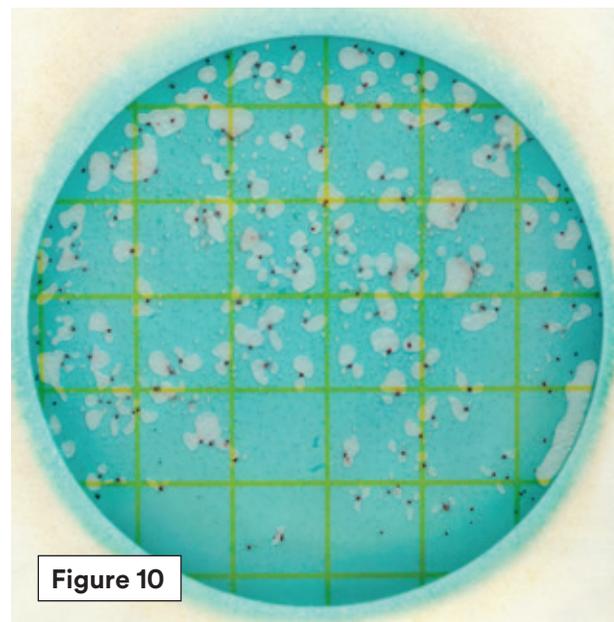
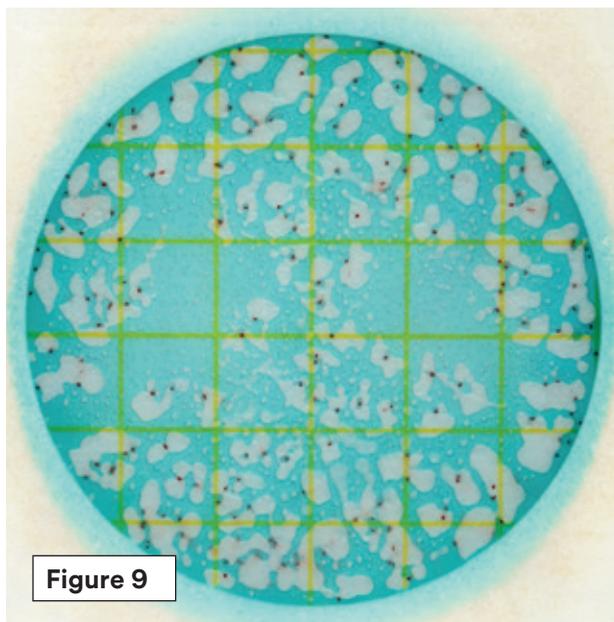


Figure 8

Estimated total lactic acid bacteria count = 1,500

When the number of colonies without gas number more than 300, estimate the count. Determine the average number of colonies in two or more representative squares and multiply by 30 to obtain the estimated total count per plate. The inoculated area on a 3M Petrifilm Lactic Acid Bacteria Count Plate is approximately 30cm².

3M™ Petrifilm™ Lactic Acid Bacteria Count Plate

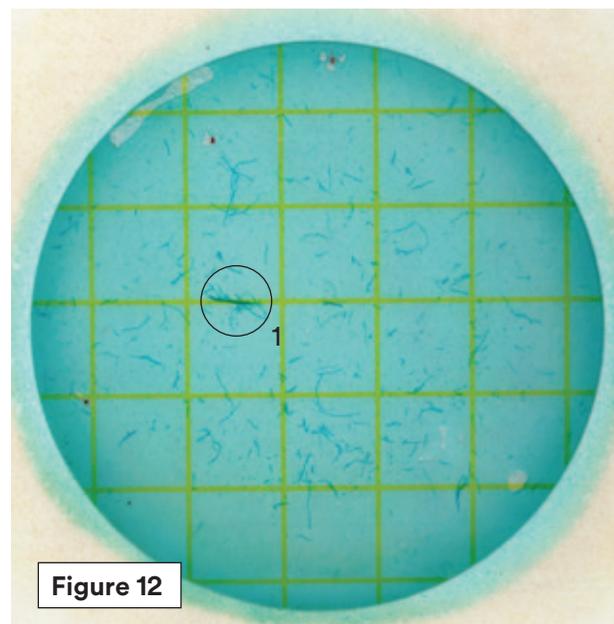
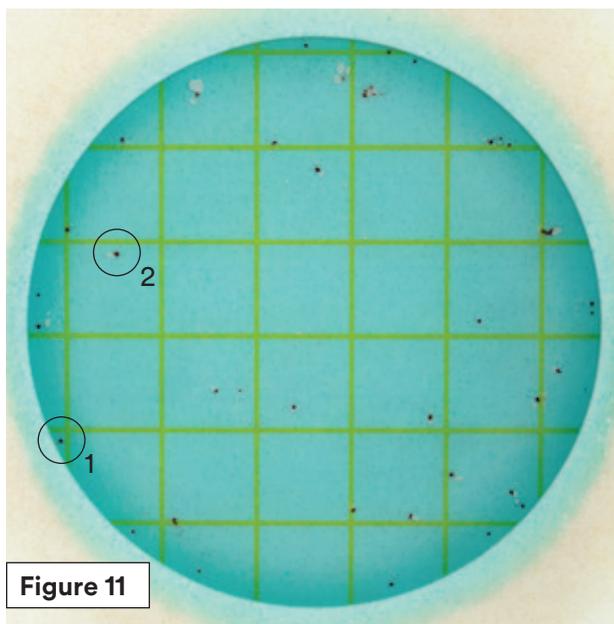


Estimated total lactic acid bacteria count = 250

When the number of colonies with gas number more than 150, estimate the count. Determine the average number of colonies in two or more representative squares and multiply by 30 to obtain the estimated total count per plate. The inoculated area on a 3M Petrifilm Lactic Acid Bacteria Count Plate is approximately 30cm².

Estimated total lactic acid bacteria count = 165

3M Petrifilm Lactic Acid Bacteria Count Plates having greater than 150 colonies with and without gas, should be estimated. Determine the average number of colonies in two or more representative squares and multiply by 30 to obtain the estimated total count per plate. The inoculated area on a 3M Petrifilm Lactic Acid Bacteria Count Plate is approximately 30cm².



Total lactic acid bacteria count: 41

Homofermentative: 13 Heterofermentative count: 28

3M Petrifilm Lactic Acid Bacteria Count Plate is able to differentiate homofermentative lactic acid bacteria from heterofermentative lactic acid bacteria. Heterofermentative lactic acid bacteria (Circle 2) are defined as colonies that are red and closely associated (within one colony diameter) with entrapped gas. Red colonies without gas (Circle 1) are defined as homofermentative lactic acid bacteria.

Total lactic acid bacteria count: 4

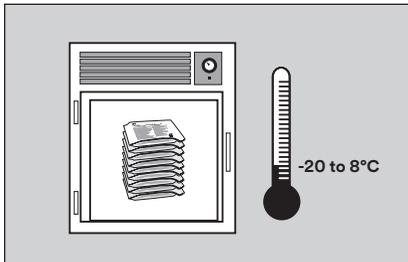
Homofermentative count: 1 Heterofermentative count: 3

Food particles (Circle 1) are irregularly shaped or filamentous. Do not enumerate. Artifact bubbles may result from improper inoculation of the 3M Petrifilm Lactic Acid Bacteria Count Plate or from trapped air within the sample. They are irregularly shaped and not associated with a red colony. Do not enumerate.

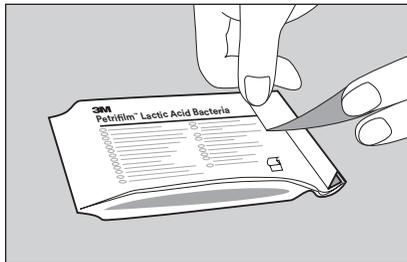
3M™ Petrifilm™ Lactic Acid Bacteria Count Plate

Reminders for Use

Storage

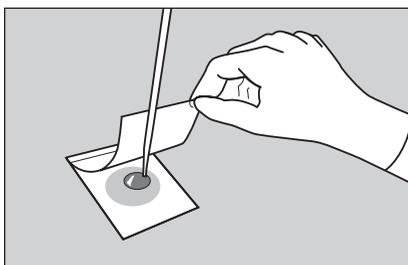


- 1 Store the unopened 3M Petrifilm Lactic Acid Bacteria Count Plate pouches at frozen or refrigerated temperature equal to -20 to 8°C (-4 to 46°F). Use before expiration date on package. It is best to allow pouches to reach room temperature before opening.

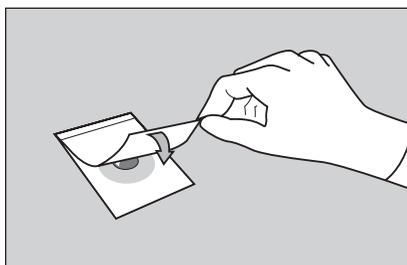


- 2 Seal by folding the end of the pouch over and applying adhesive tape. To prevent exposure to moisture, do not refrigerate opened pouches. Store sealed pouches in a cool dry place (20–25°C/<60% RH) or in a freezer ≥ -15°C (5°F) for no longer than four weeks.

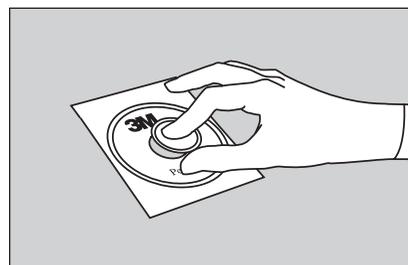
Inoculation



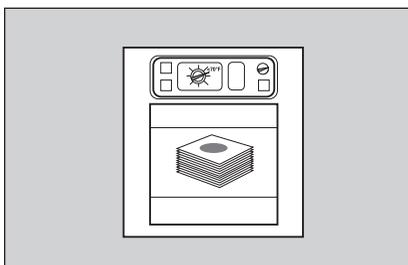
- 3 Place the 3M Petrifilm Lactic Acid Bacteria Count Plate on a level surface. Lift the top film and, with the pipette perpendicular to the inoculation area, dispense 1mL of sample suspension onto the center of the bottom film.



- 4 Roll the top film down onto the sample to prevent trapping air bubbles. Place the 3M™ Petrifilm™ Flat Spreader (catalog #6425) on the center of the 3M Petrifilm Lactic Acid Bacteria Count Plate. Press gently on the center of the 3M Petrifilm Flat Spreader to distribute the sample evenly. Remove the 3M Petrifilm Flat Spreader and leave the 3M Petrifilm Lactic Acid Bacteria Count Plate undisturbed for at least one minute to permit the gel to form.

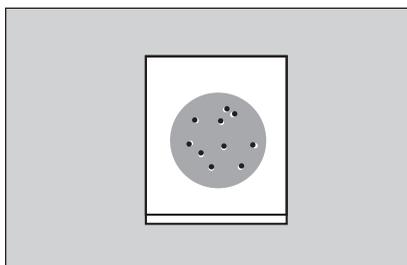


Incubation

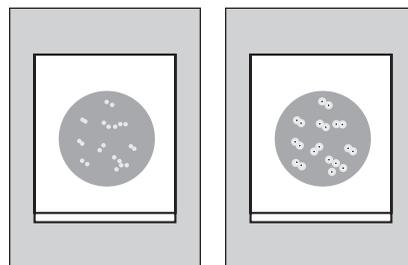


- 5 Incubate plates with clear sides up in stacks of no more than 20. Incubate the 3M Petrifilm Lactic Acid Bacteria Count Plates for 48±3 hours at 28–37°C.

Interpretation



- 6 The 3M Petrifilm Lactic Acid Bacteria Count Plates can be counted using a standard colony counter or other illuminated magnifier. Count all red colonies regardless of size or intensity. Do not count colonies on the dam since they are removed from the selective influence of the medium.



- 7 Heterofermentative lactic acid bacteria are defined as colonies that are red and closely associated (within one colony diameter) with entrapped gas. Red colonies without gas are defined as homofermentative lactic acid bacteria.

User's Responsibilities: 3M Petrifilm Plate performance has not been evaluated with all combinations of microbial flora, incubation conditions and food matrices. It is the user's responsibility to determine that any test methods and results meet the user's requirements. Should re-printing of this Interpretation Guide be necessary, user's print settings may impact picture and color quality.

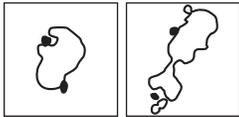
3M™ Petrifilm™ Lactic Acid Bacteria Count Plate

Bubbles

The illustrations below show examples of various bubble patterns associated with gas producing colonies. It is possible to see more than one bubble pattern on one 3M Petrifilm Lactic Acid Bacteria Count Plate. Images below should be enumerated as one colony.



Images below should be enumerated as two colonies.



Order Information

Catalog Number	Material Description	Quantity
6461	3M™ Petrifilm™ Lactic Acid Bacteria Count Plate	50 plates/box
6462	3M™ Petrifilm™ Lactic Acid Bacteria Count Plate	500 plates/box
6425	3M™ Petrifilm™ Flat Spreader	2 spreaders/box



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1-800-328-6553

3M Food Safety offers a full line of products to accomplish a variety of your microbial testing needs. For more product information, visit us at 3M.com/foodsafety/Petrifilm or call 1-800-328-6553.

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