



Petrifilm™

Interpretation Guide

The 3M™ Petrifilm™ Rapid Yeast and Mold Count Plate is a sample-ready-culture medium system which contains nutrients supplemented with antibiotics, a cold-water-soluble gelling agent and an indicator system that facilitates yeast and mold enumeration.



RYM

Rapid Yeast and Mold Count Plate



Yeast vs. Mold Colonies

To differentiate yeast and mold colonies on the 3M™ Petrifilm™ Rapid Yeast and Mold Count Plates, look for one or more of the following characteristics:

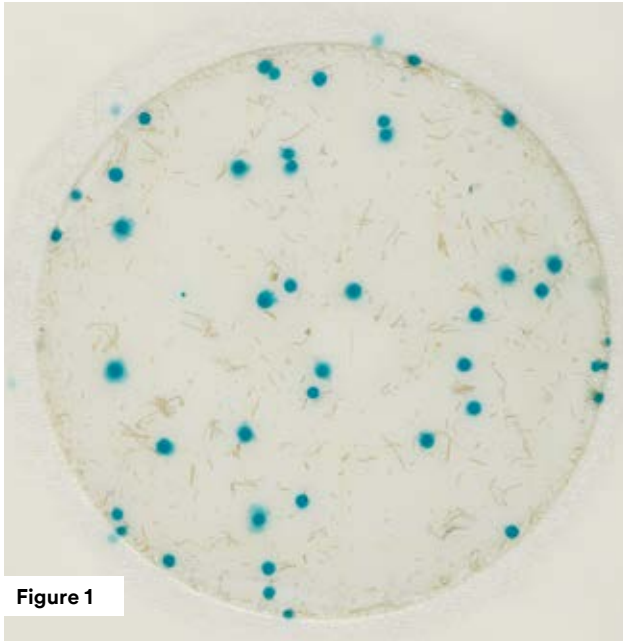


Figure 1

Yeast count = 44

The colonies are examples of characteristic **yeast**: small colonies, colonies have defined edges, pink-tan to blue-green in color, colonies appear raised (3 dimensional) and colonies have a uniform color.

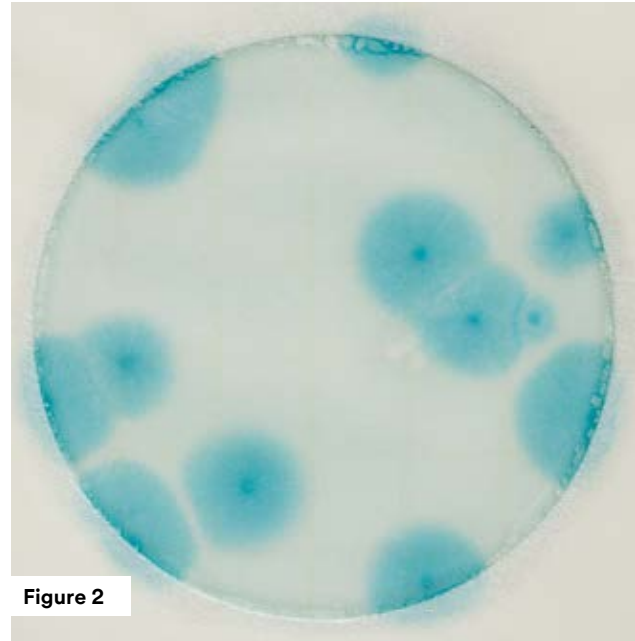


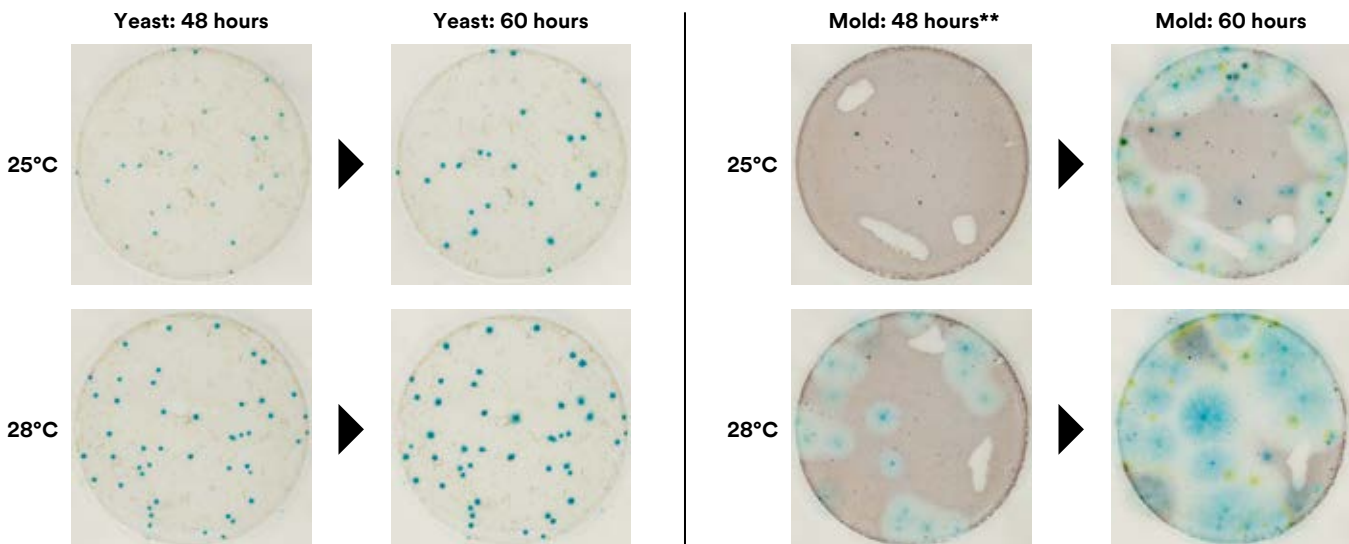
Figure 2

Mold count = 12

The colonies are examples of characteristic **mold**: large colonies, colonies have diffuse edges, blue-green to variable upon prolonged incubation, colonies appear flat and colonies have a dark center with diffused edge.

Growth and Colony Formation

Incubate 3M Petrifilm Rapid Yeast and Mold Count Plates at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ or $28^{\circ}\text{C} \pm 1^{\circ}\text{C}$ for a minimum of 48–60h* in a horizontal position with the clear side up in stacks of no more than 40. Certain food types may exhibit clearer growth and colony formation at 28°C .



*If colonies appear faint, allow an additional 12 hours of incubation time for enhanced interpretation. See product instructions for third party validated methods.

**The presence of small air bubbles will not prevent accurate counts.

Enzymatic Reaction

Food samples may occasionally show interference on the 3M Petrifilm Rapid Yeast and Mold Count Plates, for example:

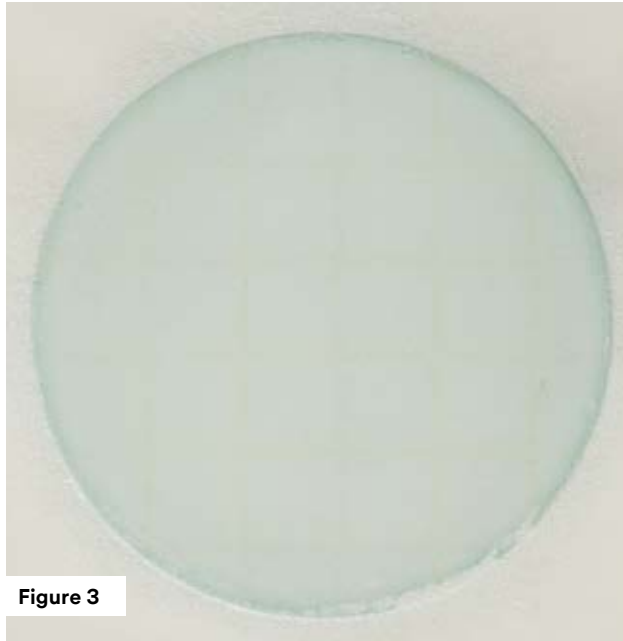


Figure 3

Count = 0

A uniform blue background color (often seen from the organisms used in cultured products) should not be counted as TNTC.



Figure 4

Count = 5

Some foods containing high levels of enzymes may cause a uniform blue background. Colony growth will still be visible if an enzyme reaction occurs.

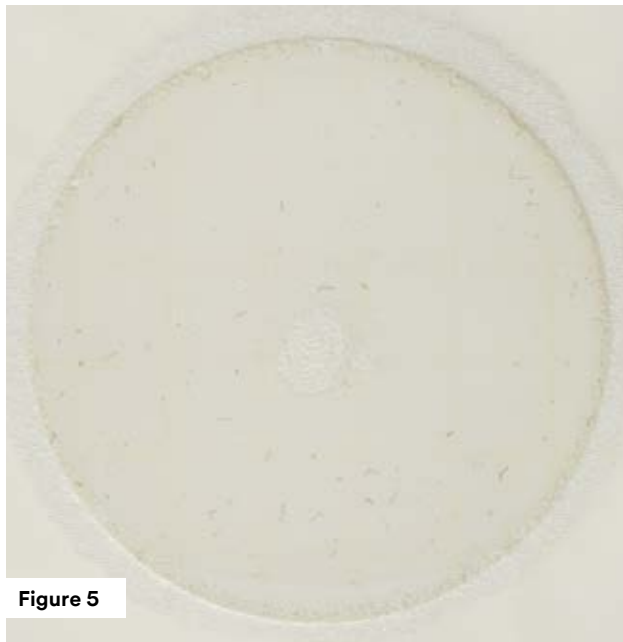


Figure 5

Count = 0

A plate without an enzymatic reaction.

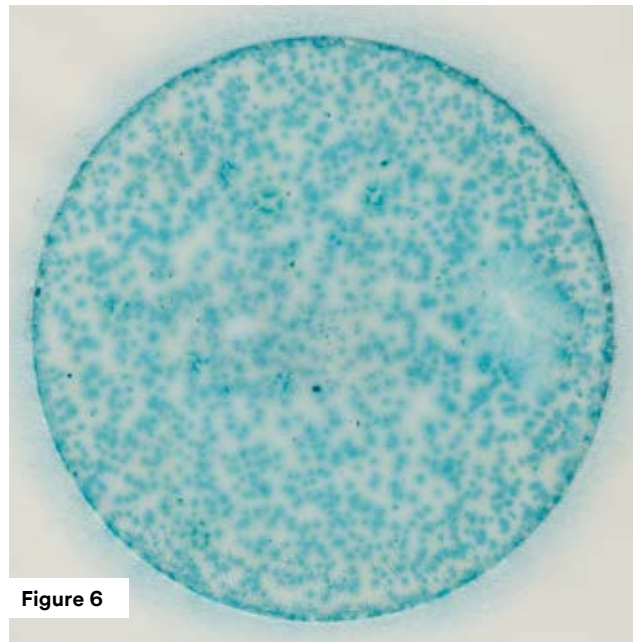


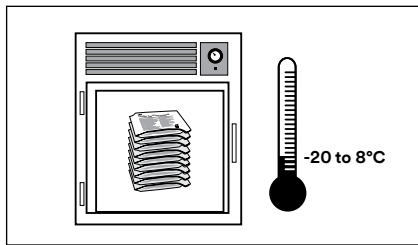
Figure 6

Count = TNTC

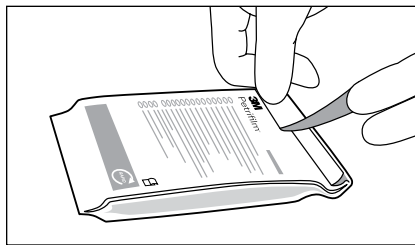
Plates containing greater than 150 colonies can either be estimated or recorded as too numerous to count (TNTC).
For a more accurate count, further dilution of sample may be necessary.

Reminders For Use

Storage

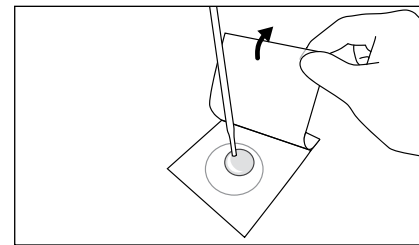


1 Store the unopened 3M Petrifilm Rapid Yeast and Mold Count Plate pouches at frozen or refrigerated temperature equal to -20 to 8°C (-4 to 46°F). Use before expiration date on package. It is best to allow pouches to reach room temperature before opening.

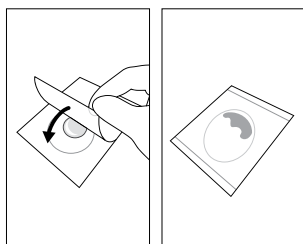


2 Seal by folding the end of the pouch over and applying adhesive tape. To prevent exposure to moisture, do not refrigerate opened pouches. Store resealed pouches in a cool dry place (20–25°C / <60% RH) for no longer than four weeks.

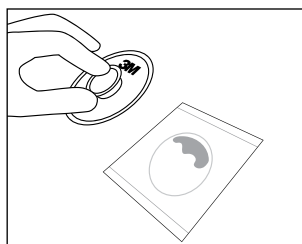
Inoculation



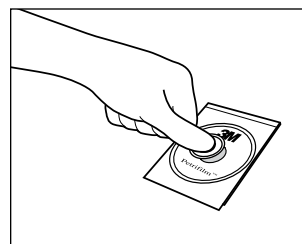
3 Place the 3M Petrifilm Rapid Yeast and Mold Count Plate on a flat, level surface. Lift the top film and with the pipette perpendicular dispense 1mL of sample suspension onto the center of bottom film.



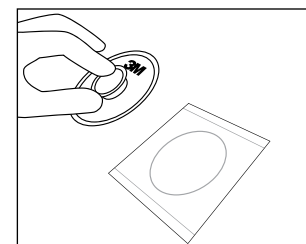
4 Roll the top film down onto the sample.



5 Place the 3M™ Petrifilm™ Flat Spreader (6425) or other flat spreader on the center of the 3M Petrifilm Rapid Yeast and Mold Count Plate.

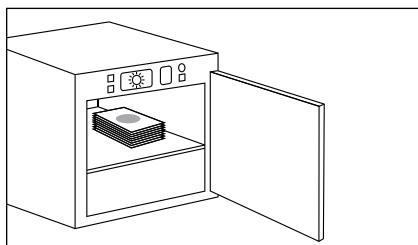


6 Press firmly on the center of the spreader to distribute the sample evenly. Spread the inoculum over the entire 3M Petrifilm Rapid Yeast and Mold Count Plate growth area before the gel is formed. Do not slide the spreader across the film.



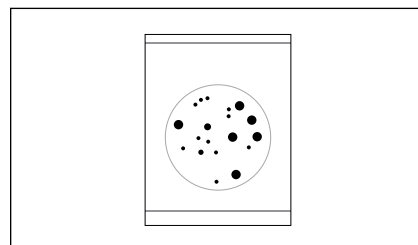
7 Remove the spreader and leave the 3M Petrifilm Rapid Yeast and Mold Count Plate undisturbed for at least one minute to permit the gel to form.

Incubation



8 Incubate 3M Petrifilm Rapid Yeast and Mold Plate at 25°C ± 1°C or 28°C ± 1°C for 48h ± 2h in a horizontal position with the clear side up in stacks of no more than 40. Please refer to the product instructions for third party validated methods.

Interpretation



9 Certain slower growing yeasts and molds may appear faint. To enhance interpretation of these molds allow for an additional 12 hours of incubation time.

Use Appropriate Sterile Diluents

Butterfield's phosphate buffer, buffered peptone water (ISO), 0.1% peptone water, peptone salt diluent, saline solution (0.85–0.90%), bisulphite-free letheen broth or distilled water.

Do not use diluents containing citrate, bisulphite or thiosulfate with 3M Petrifilm Rapid Yeast and Mold Count Plates; they can inhibit growth.

If citrate buffer is indicated in the standard procedure, substitute with 0.1% peptone water, warmed to 40–45°C.

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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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.

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