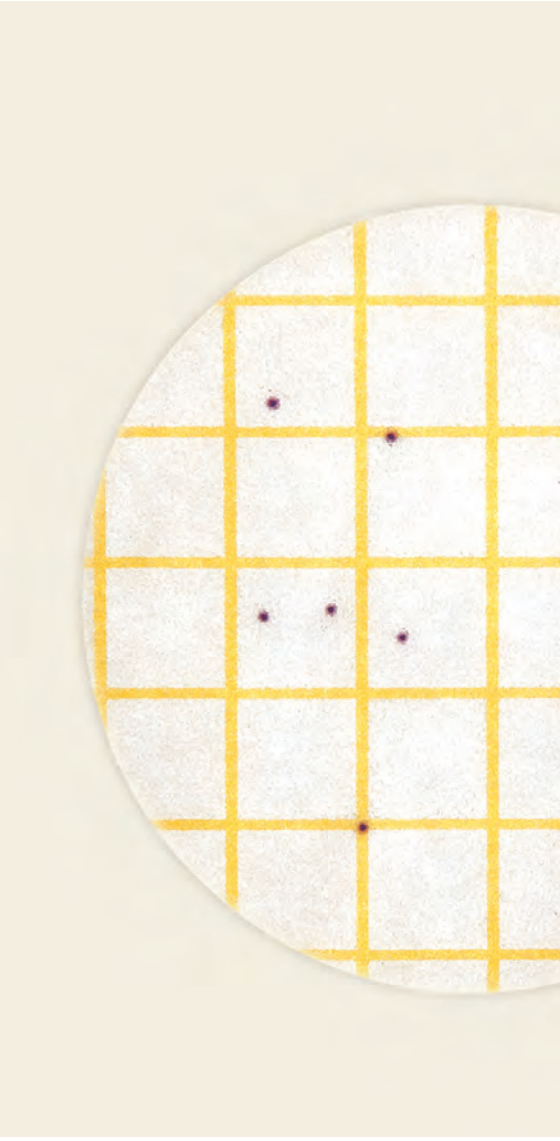
NEOGEN®

Petrifilm®

Interpretation Guide

The Neogen® Petrifilm® Staph Express System consists of a Petrifilm Staph Express Count Plate and a Petrifilm Staph Express Disk, which are packaged separately. The Petrifilm Staph Express System is used for the enumeration of DNase positive *Staphylococcus* species in the food and beverage industries.



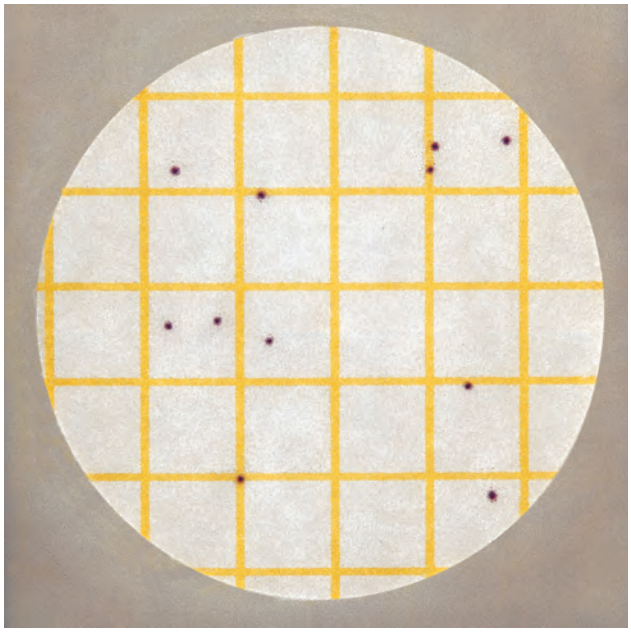
STX

Staph Express System

Petrifilm Staph Express Count Plate

The Petrifilm Staph Express Count Plate is a sample-ready culture medium system which contains a cold-water-soluble gelling agent. The chromogenic, modified Baird-Parker medium in the plate is selective and differential for *Staphylococcus aureus (S. aureus)* but may also indicate *Staphylococcus hyicus (S. hyicus)* or *Staphylococcus intermedius (S. intermedius).*

Red-violet colonies are *S. aureus, S. hyicus* or *S. intermedius.* If you encounter background flora in your testing, the Petrifilm Staph Express Disk may be used to identify *S. aureus* from all suspect colonies.



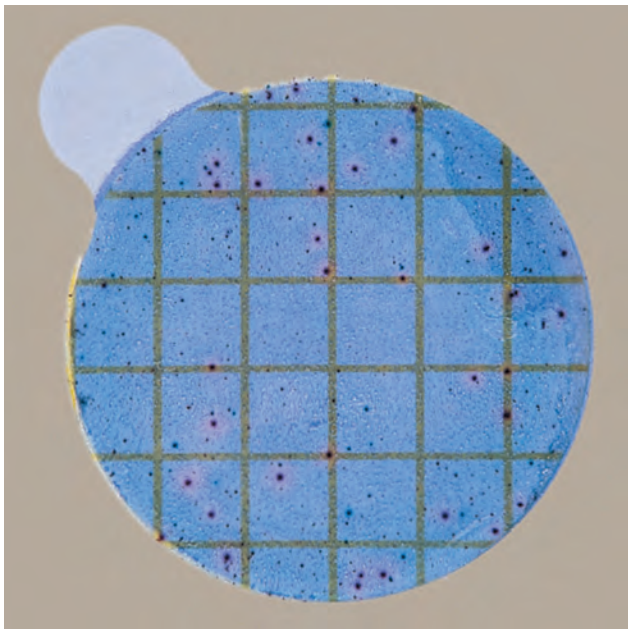
***S. aureus* count = 11**

This picture shows only red-violet colonies. Count all red-violet colonies as *S. aureus.* The test is complete.

Petrifilm Staph Express Disc

The Petrifilm Staph Express Disk should be used whenever colonies other than red-violet are present on the plate—for example, black or blue-green colonies—as they may obscure *S. aureus*. Black colonies may or may not be *S. aureus*. Blue-green colonies are not *S. aureus*.

The Petrifilm Staph Express Disk contains Toludine Blue O and deoxyribonucleic acid (DNA). Deoxyribonuclease (DNase) positive organisms degrade the DNA which reacts with the Toludine Blue O to form pink zones. DNase positive organisms include *S. aureus*, *S. hyicus,* and *S. intermedius* and comprise the majority of the group of organisms commonly known as coagulase-positive staphylococci. Most other types of bacteria do not produce pink zones.



***S. aureus* count = 33**

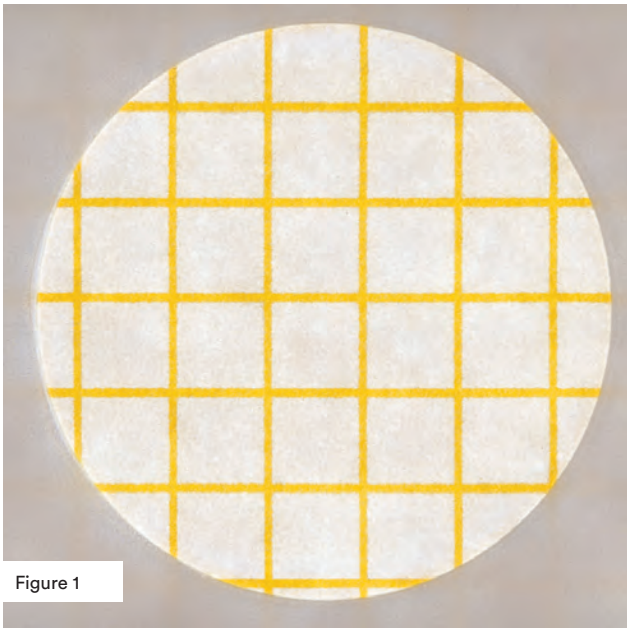


Figure 1

S. aureus count = 0

This Petrifilm Staph Express Count Plate has no colonies after 24 hours of incubation. The test is complete.

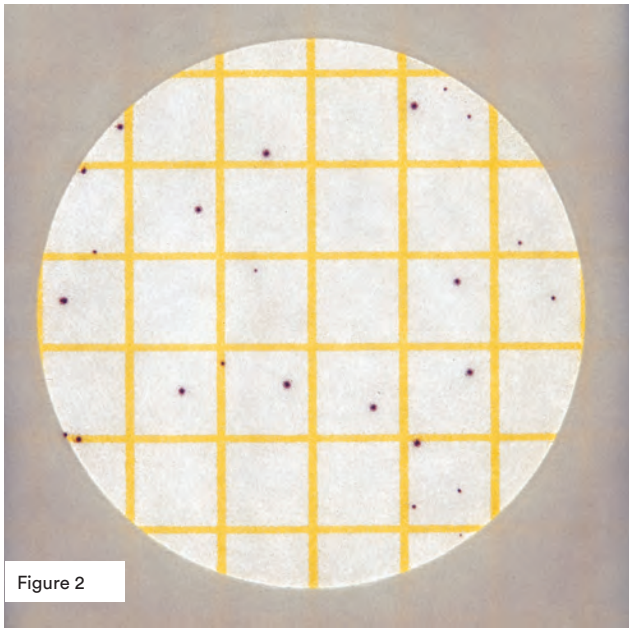


Figure 2

S. aureus count = 24

S. aureus colonies may vary in size. Count all red-violet colonies regardless of size. Use an illuminated magnifier so that the colonies are easier to see. The test is complete.

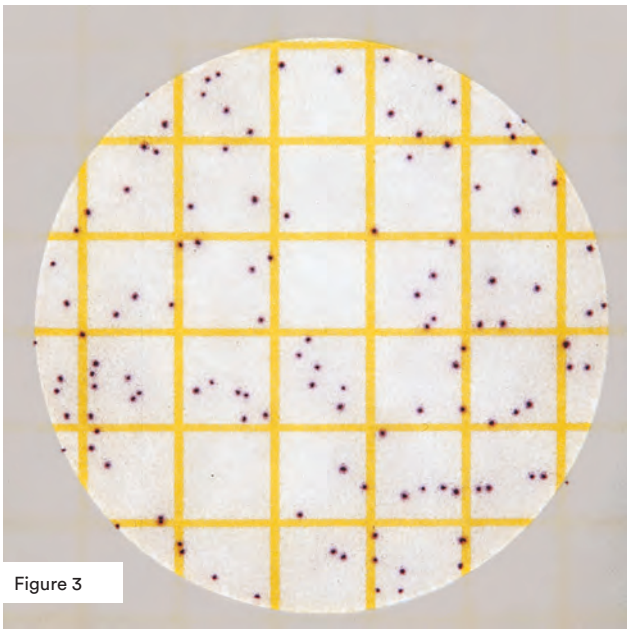


Figure 3

S. aureus count = 122

The recommended counting limit on a Petrifilm Staph Express Count Plate is 150 *S. aureus* colonies. The plate in Figure 3 is approaching the counting limit. The test is complete as there are only red-violet colonies present on the plate.

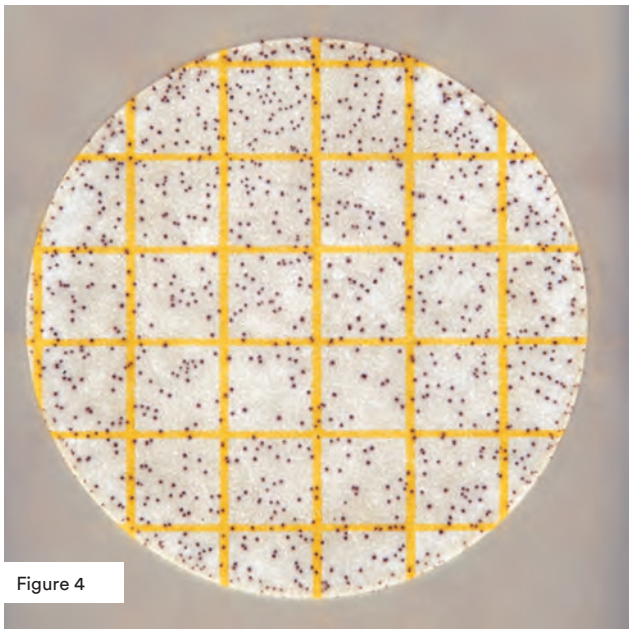


Figure 4

S. aureus count = TNTC

When the number of *S. aureus* colonies exceeds 150, the colonies become too numerous to count (TNTC). Estimate the count or dilute your sample further. To estimate the count, count the colonies in one representative square and multiply that number by 30.

For a more accurate count, further dilution of the sample may be necessary.

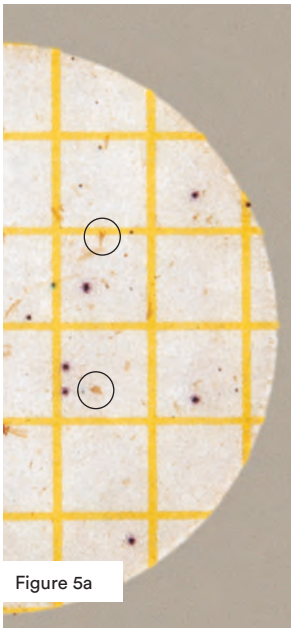


Figure 5a

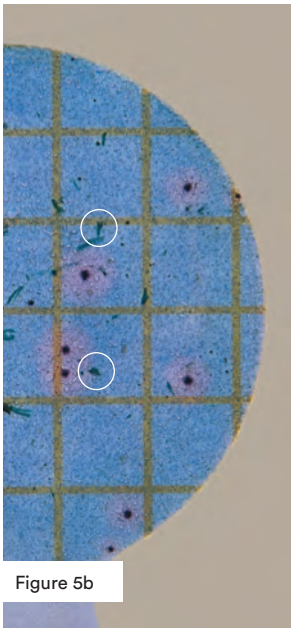


Figure 5b

S. aureus count = 7

Food particles in this figure are irregularly shaped. *S. aureus* is easier to enumerate once the disk has been inserted because the zones are more clearly distinguished from the food.

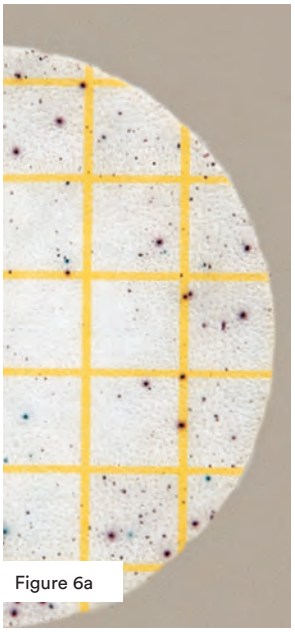


Figure 6a

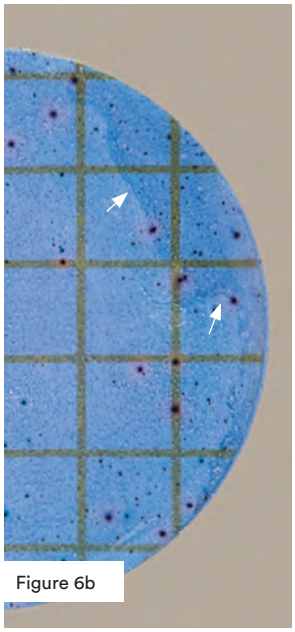


Figure 6b

S. aureus count = 17

Count pink zones as *S. aureus*, regardless of the size of the zone. The arrows in Figure 6b show gel splitting. Gel splitting does not affect the performance.

Figure 7a

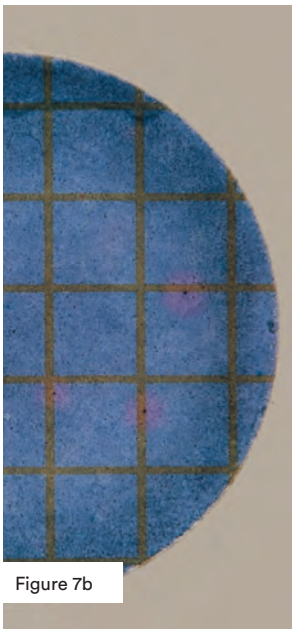


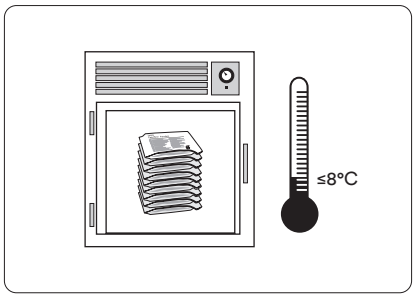
Figure 7b

S. aureus count = 3

Individual colonies are difficult to see due to food and/or large numbers of background bacteria as depicted by discoloration of the plate in Figure 7a. Insert the disk and count pink zones as *S. aureus*.

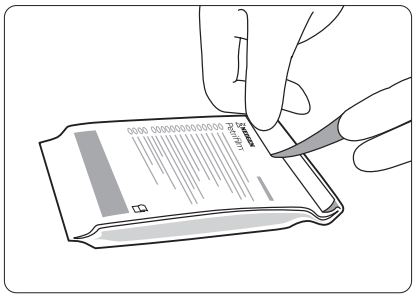
Reminders For Use

Storage



01

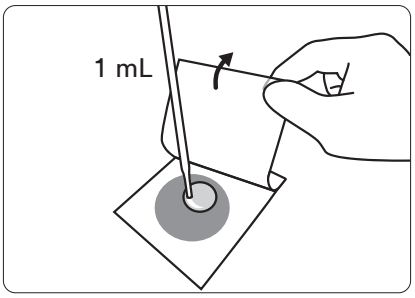
Store **unopened** Petrifilm Staph Express Count Plates and Petrifilm Staph Express Disks frozen or refrigerated temperatures ≤8°C (46°F). Just prior to use, allow unopened pouches to come to room temperature before opening. Return unused plates to pouch.



02

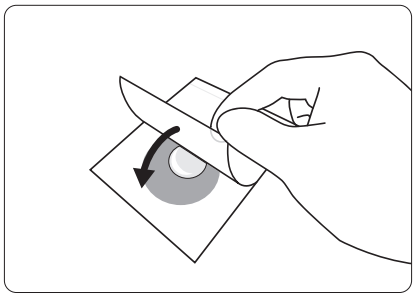
Seal by folding the end of the pouch over and applying adhesive tape. **To prevent exposure to moisture, do not refrigerate opened pouches.** Store resealed pouches in a cool dry place. Use plates within four weeks. Use disks within six months.

Inoculation



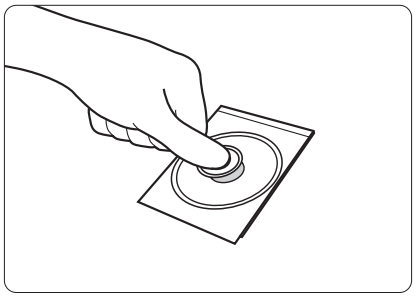
03

Place the Petrifilm Staph Express Count Plates on a flat, level surface. Lift the top film and with the pipette perpendicular dispense 1 mL of sample suspension onto the center of bottom film.



04

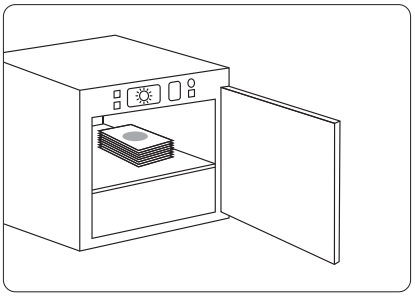
Roll the top film down onto the sample to prevent trapping air bubbles.



05

Place the Petrifilm Flat Spreader with the flat side down on the center of the plate. Press gently on the center of the spreader to distribute the inoculum over the circular area. Do not twist or side the spreader. Remove the spreader and leave the Petrifilm Staph Express Plate undisturbed for at least one minute to permit the gel to form.

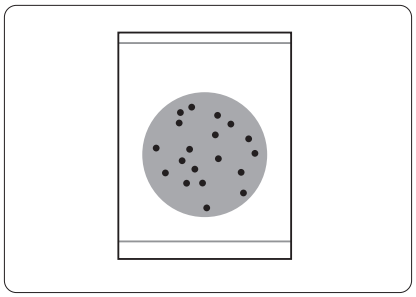
Incubation



06

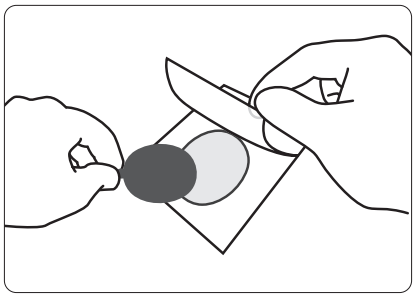
Incubate Petrifilm Staph Express Plates with the clear side up in stacks of no more than 20 plates. **Please refer to the the product instructions for third party validated methods.**

Interpretation



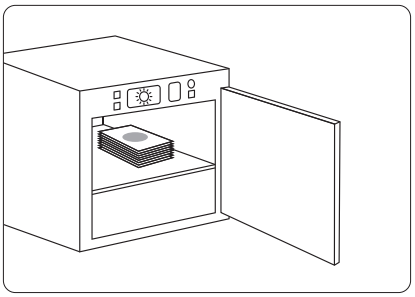
07

Count Petrifilm Staph Express Plates with a standard colony counter or other illuminated magnifier. Do not count colonies on the foam dam since they are removed from the selective influence of the medium.



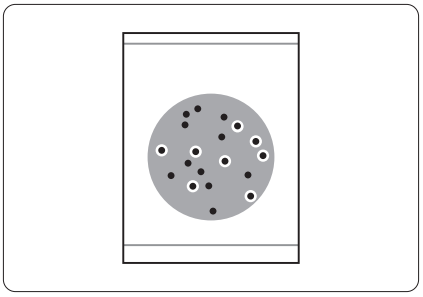
08

Lift the top film of the Petrifilm Staph Express Count Plate and place the Petrifilm Staph Express Disk in the well of the plate so that the tab remains outside the well. Apply gentle pressure to the disk area.



09

Incubate plates with inserted disks in stacks of no more than 20 plates. **Please refer to the product instructions for third party validated methods.**



10

Count all pink zones whether or not a colony is visible.

Use Appropriate Sterile Diluents

Butterfield's phosphate buffered dilution water, peptone salt diluent, 0.1% peptone water, buffered peptone water, quarter-strength Ringer's solution, saline solution (0.85-0.90%), bisulfite-free letheen broth, or distilled water.

For optimal growth and recovery of the microorganisms, adjust the pH of the sample suspension to 6-8.

Do not use diluents containing citrate, bisulfite, or thiosulfate; they can inhibit growth. Do not use dipotassium hydrogen phosphate as the DNase reaction may be inhibited.

Select commercially made buffered peptone water media formulated to meet the requirements of ISO 6887 (buffered peptone water (BPW (ISO)) may inhibit the DNase reaction resulting in no pink zone formation when the Petrifilm Staph Express Count Plate is used with the Petrifilm Staph Express Disk. It is important to verify the performance of the Petrifilm Staph Express Disk with the diluent chosen for sample preparation. Failure to do so, may result in false negatives.

If citrate buffer is indicated in the standard procedure, substitute warmed to 40-45°C (104-113°F) Butterfield's phosphate buffered dilution water or peptone salt diluent.

Neogen offers a full line of products to accomplish a variety of your microbial testing needs.

For more product information, visit **info.neogen.com/petrifilm**

User's Responsibilities: Neogen 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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