soleris®

Staphylococcus Vial (9 mL)

Product No. SM-118

Instructions for use in Soleris® instrument

SM-118 vial uninoculated (left) and inoculated vial (right).

The *Staphylococcus* Vial, 9 mL (SM-118) is a screening vial specific for *Staphylococcus* spp., especially *Staphylococcus aureus*. If *Staphylococcus is* present in the test sample, it ferments the mannitol sugar in the broth changing it to acid, which changes the lighter blue color dye to a dark blue color. The color change is read by optical sensors in the Soleris® instrument.

Materials Required

1. SM-118, *Staphylococcus* Vial, 9 mL
2. SI-118B, *Staphylococcus* Supplement

Dependent on Sample Tested

1. Sterile 1 N to 5 N sodium hydroxide (NaOH) and/or hydrochloric acid (HCl)
2. pH meter or pH paper
3. Butterfield's Phosphate Buffer, 99 mL (BPB-99)
4. Tryptic Soy Broth (TS-124)
5. Coagulase SA Reagent (BLX-COG)

Vial Specifications

1. Vial pH is 7.2 ± 0.2
2. Vial sample capacity up to 1.0 mL

Staphylococcus Supplement

1. Add 5.0 mL of sterile deionized water. Mix well. Store in the refrigerator up to 7 days after rehydration. For additional information please see the SI-118B kit insert.

Sample Preparation

1. Add the sample directly or prepare a 1:10 dilution by adding 11 g of sample to 99 mL of sterile Butterfield's Phosphate Buffer.
2. If using specification monitoring (dilute-to-specification method), complete the dilution required. (See Soleris Manual, section 1.7)
3. Adjust the pH of the 1:10 dilution to 6.0-7.0.
4. Add 0.1 mL of *Staphylococcus* Supplement to the *Staphylococcus* Vial.
5. Add sample to vial within 2 hours after the addition of supplement.

Inoculation of Vial

1. Inoculate the vial with no more than 1 mL of the sample to be tested. If using specification monitoring (dilute-to-specification method), add the volume of the appropriate dilution required.
2. Cap the vial and gently invert 3 times to mix sample. Keep cap tight.
3. Insert the vial into the Soleris instrument set at 37°C or as indicated by trainer. The incubation temperature and test duration can be optimized within the listed ranges for different product types. It is not recommended to adjust parameters without consulting Neogen Technical Services.

CAUTION: Products containing CO_2 releasing compounds (e.g., ascorbic acid, calcium carbonate, or calcium ascorbate) need to be carefully validated as reactions with the vial chemistry may occur causing false positive results.

Algorithm Utilized

Test	Threshold	Skip	Shuteye	Duration	Temperature
SM-118	-14	1	30	16 hours	37°C

*If shuteye detections are observed at 2.8 hours the threshold may need to be adjusted based on product matrix. Please consult Soleris Technical Services for assistance.

Staphylococcus aureus Confirmation

Material Required

1. Dehydrated Mannitol Salt Agar (MSA) or prepared MSA plate

Procedure

1. From a positive SM-118 vial, invert to mix and inoculate 0.1 mL of the broth medium onto an MSA plate.
2. Streak the MSA plates for isolation using 10 µL inoculation loop and incubate for 18–24 hours at 35°C.
3. After incubation, typical colonies should be tested for *Staphylococcus aureus* confirmation.

Staphylococcus aureus Confirmation Step

1. Take isolated colony from the plate using a sterile inoculation loop.
2. Add 0.5 mL from the Coagulase SA Reagent (BLX-COG), swirl gently to mix.
3. Incubate at 35°C for 4 hours.
4. Gently slant the tube to look for clotting. If no clot is visible after 4 hours, re-incubate at 35°C for up to 24 hours.

NOTE: Results after 24 hours may be invalid, as the fibrinogen in the plasma can break down over time.

5. If a clot is seen after the incubation, the sample is positive for *S. aureus*. If it remains liquid, the sample does not contain *S. aureus*.
6. Positive *Staphylococcus aureus* results should be sent out to a third party laboratory for verification.

Disclaimers:

Information provided is based on validation procedures that Neogen performed in Neogen laboratories. Deviation from procedures are possible, but should be discussed with Neogen Technical Services.

Samples may need to be pH adjusted for all vials.

Appearance of the vials should be inspected prior to use.

If shuteye detections are observed the threshold may need to be adjusted based on the product matrix. Certain product matrices may require new parameters. For more information, contact Neogen Technical Services.

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