

# MC-Media Pad™ “SA” instruction manual

## Easy and accurate dry culture system for Microbial Counts

### ◆ BACKGROUND

For hygiene control, it is important to determine the microbial count in foodstuffs and the process environment. MC-Media Pad SA is intended to determine the *Staphylococcus aureus* count using a special medium composition and specific chromogenic substrate for this pathogen. MC-Media Pad pre-sterilized, ready-to-use dry culture devices simplify testing and minimize the quantity of waste. MC-Media Pad is composed of a unique adhesive sheet, a test pad coated with medium and water absorption polymer, and a transparent cover film.

### ◆ TEST PRINCIPLES

MC-Media Pad SA is coated with a selective medium and a chromogenic substrate for specific determination. Once the liquid sample is inoculated onto the test pad, the sample diffuses through the whole pad by capillary action. The medium re-constitutes automatically. If *S. aureus* is present, it grows as light-blue/blue colored colonies on the test pad.

### ◆ CONTENTS and STORAGE

- 1000 plates ... code **SK03A25** (25 plates x 40)  
**SK03A10** (10 plates x 100)
- 100 plates ... code **SK03B25** (25 plates x 4)  
**SK03B10** (10 plates x 10)

This kit should be stored between 2-15°C. When stored properly and unopened, the kit has a shelf-life of 1 year from date of manufacture. Refer to product label for expiration date.

### ◆ MATERIALS REQUIRED BUT NOT PROVIDED

- Incubator (35 ± 1 °C)
- Stomacher or Blender
- Sampling bag (Recommended for Stomacher; bag with filter to eliminate food debris)
- Pipette or Pipettor and pipette tips
- Maximum Recovery Diluent (MRD) or appropriate diluent according to EN ISO 6887-1.

### ◆ SAMPLE PREPARATION

#### ● For solid food stuffs

Homogenize a 10-g test portion in 90 mL of MRD with a stomacher. If necessary, make a 10-fold serial dilution of the homogenate by diluting 10 mL homogenate with 90 mL MRD.

#### ● For water, liquid food stuffs, or swab test sample (not included in AOAC PTM certification)

Sample can be applied directly or diluted with MRD, Buffered Peptone Water (BPW) or other diluent as described in ISO 6887-1. If necessary, pH of sample should be adjusted to neutral (pH 7.0 ± 0.2). If BPW is used as a diluent, colony color may appear black.

### ◆ TEST PROCEDURE

#### ● General Operation

1. Open the aluminum bag, and remove the MC-Media Pad, and write sample ID on cover film.
2. Lift the cover film and drop 1.0 mL of sample solution onto the test pad.
3. Replace the cover film and lightly press the edges of film to seal. (It is recommended to lift the cover film diagonally for easy and sure re-sealing.)
4. Incubate test plate at 35 ± 1 °C for 24 ± 2 hours.

#### ● Other Application

For Wiping/Stamping technique, Membrane filter method, and Airborne falling bacteria test apply a sterile diluent 30 min before use (not included in AOAC PTM Certification). See website for detailed information. (<https://www.jnc-corp.co.jp/MC-MPI/>)

### ◆ INTERPRETATION

Count all light-blue/blue colored colonies as *S. aureus* regardless of strength of color. For large number of colonies, colony counts can be estimated by counting colonies in one grid square and multiplying by 20. If more than 10<sup>4</sup> microbes are grown, the entire test pad may appear as

stained, and it may appear that no individual colonies were formed. If this is the case, dilute the sample further and re-test. If necessary, a target colony can be picked up with a sterile needle from the test pad for further analysis.

### ◆ PRECAUTIONS

1. The test is designed for use by quality control personnel and others familiar with testing samples potentially contaminated with *S. aureus*.
2. *S. aureus* strains may produce enterotoxins, toxic shock syndrome toxin, or exfoliative toxins. Use personal protective equipment such as gloves, laboratory coat and eye protection.
3. Treat samples and inoculated devices as potentially biohazardous. Use biosafety level 2 practices.
4. Read this instruction manual carefully before use.
5. After opening the aluminum bag, unused plates should be stored in the aluminum bag sealed with tape, and kept in a cool (2-15 °C) environment. After opening, use all plates within 1 month.
6. Do not expose unused plates to sunlight or ultraviolet light.
7. Do not use a discolored or damaged plate.
8. A wrinkle or small fragments of fabric on the test pad should not affect detection.
9. Do not use the plates after the expiration date. The quality of an expired plate is not warranted.
10. The measurement range is less than 300 cfu/plate. If more than 300 cfu/plate are counted, further dilution is recommended.
11. The presumptive *S. aureus* detected on MC-Media Pad SA should be confirmed to be *S. aureus* by coagulase test or other tests.
12. In case of applying enzyme-containing foods (e.g. raw foods or liver), the entire test pad may appear as stained.
13. The nature (high viscosity food or food dye) of food may affect test usage or results. In that case, the causes need to be eliminated by dilution or other means.
14. The use of BPW as diluent may cause colonies to appear black.
15. The used kit must be sterilized by autoclaving or boiling, and then disposed according to local regulations for waste.

### ◆ METHOD VALIDATION

MC-Media Pad SA is approved as alternative method for EN ISO 6888-1:1999 by MicroVal (Cer. No. 2015LR56) for all foods. AOAC *Performance Tested Method*<sup>SM</sup> study (Cert. No. 051704) MC-Media Pad SA was compared to EN ISO 6888-1:1999 and certified by the AOAC Research Institute *Performance Tested Methods*<sup>SM</sup> Program for enumeration of *S. aureus* in pastrami, cooked chilled sliced chicken roll, cooked peeled chilled prawns, smoked salmon, pasta salad in tomato dressing with vegetables and cheese, cheese and mayonnaise-based sandwich spread, fresh uncooked penne pasta, infant probiotic cereal, chilled custard, and raw cow's milk Brie cheese.

### ◆ LIMITATION of WARRANTY

The Products are covered by the applicable JNC Corporation standard warranty. NO OTHER EXPRESS OR IMPLIED WARRANTY IS MADE WITH RESPECT TO THE PRODUCTS. JNC EXPRESSLY EXCLUDES THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE. If product is defective, JNC and JNC's authorized distributor will provide a replacement or refund at the purchase price.

### ◆ CONTACT and FURTHER INFORMATION

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