

# Instruction Manual

## MC-Media Pad® Rapid Aerobic Count

Convenient culture media for rapid enumeration of aerobic microbial contamination

### Application

For hygiene control, it is important to determine the microbial count in food and beverage products. MC-Media Pad® Rapid Aerobic Count is intended to determine the total aerobic count using a special medium composition and unique redox indicator dyes for not only standard but also rapid enumeration.

The MC-Media Pad® is a pre-sterilized, ready-to-use dry culture device, simplifying testing and minimizing 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

The MC-Media Pad® is coated with growth medium and chromogenic substrate for total aerobic enumeration. 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 aerobic bacteria are present, they grow as red colored colonies on test pad.

### Certification

AOAC Performance Tested Method<sup>SM</sup> study (Cer. No. 091702)

MC-Media Pad® Rapid Aerobic Count was shown to be equivalent to USDA FSIS MLG 3.02 for raw chicken breast and raw ground pork; to Standard Methods for the Examination of Dairy Products Chapter 6 for cream cheese and yogurt drink; to AOAC OMA 966.23 for parsley, vegetable juice, prawns, tuna pate, sandwiches, and pasta salad; and to ISO 4833:2013 for raw chicken breast, raw ground pork, cream cheese, yogurt drink, parsley, vegetable juice, prawns, tuna pate, sandwiches, and pasta salad.

MC-Media Pad® Rapid Aerobic Count is approved as alternative method to EN ISO 4833-1:2013 and the validation and certification has been performed in accordance with EN ISO 16140-2:2016 by MicroVal (Cer. No. 2015LR52) for a broad range of foods.

### Contents and Storage

100 pads (4 x 25 pads); catalogue number 1323590001

This kit should be stored between 2–15 °C. (Refrigerated)

### Materials Required but not Provided

- Incubator (30 or 35 ±1 °C)
- Homogenizer or Blender (e.g. item 5.42765.0001)
- Sampling bag (Recommended for homogenizer; bag with filter to eliminate food debris)
- Pipette or Pipettor and pipette tips
- Maximum Recovery Diluent (MRD), Butterfield's Phosphate Buffer (BPB), Buffered Peptone Water (BPW), 2% sodium citrate, according to EN ISO 6887. Phosphate Buffered Saline (PBS) or Saline are available (not included in AOAC-PTM certification).

### Sample Preparation

#### For solid food samples

Homogenize a 10 or 50 g portion in 9-fold volume of MRD, BPB or appropriate diluents with a homogenizer or blender. If necessary, make a 10-fold serial dilution. For dairy products homogenize 11 g test portion in 99 mL of 2% sodium citrate at 40–45 °C. If necessary, add 11 mL of homogenate into 99 mL BPB for serial dilution.

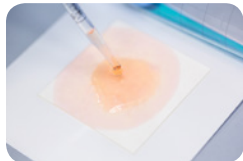
#### For liquid samples

Samples can be applied directly or diluted with MRD or appropriate diluents as for solid samples. If necessary, pH of sample should be adjusted to neutral (pH 7.0 ±0.2). For yogurt drink, homogenize 11 mL test portion in 99 mL of BPB. If necessary, add 11 mL of homogenate into 99 mL BPB for serial dilution.

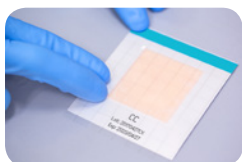


## Test Procedure

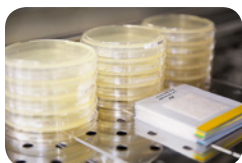
1. Open the aluminum bag, and remove the MC-Media Pad®. If necessary, write information on the cover film.
2. Lift the transparent cover film and pipette 1.0 mL of sample solution onto test pad. (It is recommended to lift the cover film diagonally for easy and secure re-sealing.)



3. Close the cover film and lightly press the edges of film to seal.



4. For **standard usage**, incubate test plate at  $35 \pm 1$  °C for  $48 \pm 2$  hours (according to USDA FSIS, AOAC OMA 966.23, Standard Methods for Examination of Dairy Products). For **alternative usage** incubate the test at  $30 \pm 1$  °C for  $72 \pm 3$  hours (acc. EN ISO 4833). For **rapid usage**, incubate the test plate at  $35 \pm 1$  °C for  $24 \pm 2$  hours. The standard usage is applicable for all food products. For food products which contain large amounts of lactic acid bacteria (e.g. *Lactobacillus* sp.) and psychrophilic bacteria (e.g. *Pseudomonas* sp.) rapid usage may not be applicable.



5. Re-seal the opened bags and store at 2–15 °C for up to 4 weeks.



## Interpretation



Count all reddish colored colonies. Certain bacteria (in particular *Bacillus* species strains) may form diffuse and fuzzy round shapes. In that case, dark colored points should be counted as colonies. For large numbers of colonies, colony counts can be estimated by counting colonies in one grid square and multiplying by 20.

If more than  $10^4$  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

- The test is designed for use by quality control personnel and others familiar with testing samples potentially contaminated with aerobic microbes.
- Use personal protective equipment such as gloves, laboratory coat and eye protection. Treat samples and inoculated devices as potentially biohazardous.
- Read this instruction manual carefully before use.
- After opening the aluminum bag, unused pads should be stored in the aluminum bag sealed with tape, and kept in a cool (2–15 °C) environment. After opening, use all pads within 1 month.
- Do not expose unused pads to sunlight or ultraviolet light.
- Do not use a discolored or damaged pad.
- A wrinkle on the test pad should not affect detection.
- Small fragments of fabric on or around the test pad should not affect detection.
- Do not use the pads after the expiration date. The quality of an expired pad is not guaranteed.
- The measurement range is less than 300 cfu/pad. If more than 300 cfu/pad counted, further dilution is recommended.
- The rapid mode test is not suitable for all foods. Therefore, suitability should be verified using your own samples before applying.
- The nature of food (high viscosity food or food dye) may affect test usage or results. In that case, the causes need to be eliminated by dilution or other means.
- The used kit must be decontaminated by autoclaving or boiling, and disposed according to local regulations for waste.

## To place an order or receive technical assistance

For more information, please visit [www.sigmaaldrich.com](http://www.sigmaaldrich.com), go to the support tab for up-to-date worldwide contact information

