

Compact Dry CC

Simple and Easy Dry Medium with catechin neutralizer for Total Viable Count

Art. No.: HS7311 (100 plates) / HS7312 (40 Plates)

Background

It is important to detect and measure the total viable count in foodstuffs and environment to monitor the degree of cleanness as well as their sanitary safety. Pour Plate method has been widely used to determine the microbial count, but preparation of medium is complicated. The Compact Dry CC has been successfully developed based on new concept and technology that is applicable for catechin containing tea drink or antiseptic substance containing sample, which requires a simple and easy manipulation to add a drop of specimen on the device.

Features and Benefits

- 1) Compact Dry CC neutralizes catechin in liquid sample: accurate bacterial count is expected from tea drink.
- 2) Small and compact plate: need only small physical spaces for storing, testing and incubating.
- 3) Ready to use and portable plate: no needs to prepare medium, which eliminates the waste of medium as well as the apparatus to prepare the medium. Good for an emergency and a field test.
- 4) Sample diffuses automatically and evenly into the plate: no needs of mixing and dilution after inoculation.
- 5) Dried plate and one-year shelf life at room temperature: easy to store. Once a liquid sample is dropped, the dry coated medium transforms to gel and the plate is ready to incubate.
- 6) Clear color development by redox indicator: easy to read the results. Isolated colonies can be subcultured individually to the other media.
- 7) Good correlation with Pour Plate method: maintain the continuity of data accumulated.

Operating Procedure

Preparation of specimen

- 1) Prepare appropriate diluent: Butterfield's buffered phosphate diluent (KH₂PO₄ at 0.0425 g/L and adjust pH at 7.2, autoclave for sterilization) is recommended (other diluents may be applicable).
- 2) For solid foodstuffs:
Weigh 50 g solid sample and add 450 ml Butterfield's buffered phosphate diluent to the sample. Homogenize this mixed sample by a blender (ex. CELL MASTER CM-100: AZ ONE CORP, it is non-exclusive). Pipette 1 ml of homogenized specimen (to be further diluted if necessary) in the middle of Compact Dry CC plate.
- 3) For liquid foodstuffs, water or tea drink:
Pipette 1 ml of sample (to be diluted if necessary) in the middle of Compact Dry CC.
- 4) For swab test sample:
Inoculate 1 ml of wiping solution (to be diluted if necessary), which is obtained from cotton swab, in the middle of dry sheet of Compact Dry CC.

Direction for Compact Dry CC

- 1) Open aluminum bag, and take out a set of 4 plates.
- 2) Detach necessary number of plate(s) from a set of four by bending up and down while pressing the lid. Use a set of four plates being connected when serial dilution measuring is intended.
- 3) Take off the cap of the plate, pipette 1 ml of sample in the middle of dry sheet and put the lid again. Specimen diffuses automatically and evenly into all over the sheet (total medium of 20 cm²) to transform it into gel within seconds.
- 4) Write the appropriate information on the memorandum section. Turn over the plate capped and put it in an incubator.
Incubate 48 hours at 35 °C for total viable count.
- 5) From backside of the plate, count the number of colored colonies appeared in the medium. White paper placed under the plate can help to count colonies easier. When the number of colonies are great large, it is convenient to use the grids carved on the back of the container consisting of 1 cm x 1 cm, or 0.5 cm x 0.5 cm at the 4 corners.

Precaution for use

- 1) Compact Dry CC is available and useful for enumeration of aerobic bacteria in tea products (the plate may be applicable for other food materials, products and related matrices).
Do not use Compact Dry CC for human and animal diagnosis.
- 2) During inoculation, do not touch the surface of medium, and be careful to avoid any contamination by falling microorganism.
- 3) During incubation, keep cap tight of Compact Dry to avoid any possible dehydration.
- 4) It is recommended to use a stomacher bag with filter to eliminate risks of carry over of tiny pieces of foodstuffs into the surface of the medium.

- 5) Detection limit of Compact Dry CC is between 1 - 300 CFU / plate. Specimen should be diluted by buffer solution to the level of less than 300 CFU / plate. Buffered Sodium Chloride Peptone Solution (BPW, pH 7.0) may be recommended for diluting such specimen.
- 6) If bacteria more than 10⁸ CFU were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets become seemingly colored.
- 7) If the nature of sample does affect the reaction of the medium, inoculate the sample only after the factor is eliminated by means of such as dilution and others.
For instance; samples such as high viscosity, colored, reacted with redox indicator, and too high or too low pH.

Interpretation

Compact Dry CC with catechin neutralizer for total viable count:

The medium consists of a non-selective medium and a redox indicator of 2,3,5-Triphenyl-Tetrazolium-Chloride (TTC). Colonies grown on Compact Dry CC are almost all blue colored. Count all colonies grown on the plate whether color of colony is light or not.

Precaution for interpretation

- 1) Full medium size in the plate is 20 cm², and the back of container has a grid carved of 1 cm x 1 cm to make colony counting easier. In case of any difficulty to count the colonies due to great large number of colonies grown on the medium, total viable count can be obtained by multiplying 20 by an average number of colonies per a grid (1 cm x 1 cm) counted from several grids. By the same reasoning, when if too many colonies grew on the medium to count, total viable count can be obtain by multiplying 80 by an average number of colonies per a grid (0.5 cm x 0.5 cm) that is carved in the four corners of the grids.
- 2) Since some microorganism may not reduce TTC to develop blue color, some of the colonies on Compact Dry CC may not be necessarily clear blue.

Warning and Direction for Use

1. General precautions

- 1) Read and follow precisely the warning and direction for use described on the package insert and/or label.
- 2) Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
- 3) Do not use the product that contains any foreign materials, discolored or dehydrated, or its container is damaged.
- 4) After opening the aluminum bag, any plates unused should be put back into the aluminum bag to be sealed with tape to avoid light and moisture, and use up as soon as possible. If Compact Dry CC is subjective to light that might affect the color development of colonies.
- 5) Cap tightly again after inoculation to avoid dehydration of medium gelled.

2. Precautions for danger

- 1) If medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
- 2) Manipulations with microorganisms involve always certain risks of laboratory -acquired infections. Manipulations should be practiced under the supervision of key specialist with biohazard protection measures.
- 3) Any laboratory equipment and medium that touched with specimen should be regarded as infectious in the laboratory.

3. Precautions for disposal of waste

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use and then disposed as industrial waste according to the Law on Waste Disposal and Cleaning. Also follow to your local laws and regulations related to dispose such material.

4. User Responsibility

- 1) It is user's responsibility in selecting any test method to evaluate a sufficient number of samples with particular foods and microbial challenges to satisfy the user that the chosen test method meets the user's criteria.
- 2) It is also the user's responsibility to determine that any test methods and results meet its customers' or suppliers' requirements. The user must train its personnel in proper testing techniques.

5. Limitation of Warranties

Compact Dry plates are manufactured at an ISO 9001:2000 certified facility.

If any Compact Dry plate is proven to be defective by manufacturers or its authorized distributor's faults, they may replace or, at their opinion, refund the purchase price of any plate. These are the exclusive remedies.

Storage and Shelf life

Storage: Keep at room temperature (1 - 30 °C).

Shelf life: One year (12 months) after manufacturing.

Expiration date is printed on both label of outer box and aluminum bag.