

CompactDry™ AQ

Simple and Easy Dry Medium for Total Viable Count for Water testing

*Background

CompactDry™ AQ is a prepared medium to determine total viable count and heterotrophic organisms in water.

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. The method requires much time and complicated operations such as preparation of hot agar kept at 45 – 50 °C and mixing and dilution uniformly. To save the time of operator and make it possible for anyone to perform the microbial count test without difficulty, Shimadzu Diagnostics has successfully developed CompactDry™ based on new concept and technology that may be applicable for almost all food industries, which requires a simple and easy manipulation to add a drop of specimen on the device.

*Features and Benefits

- 1) Small and compact plate: Need only small physical spaces for storing, testing, and incubating.
- 2) 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.
- 3) Sample diffuses automatically and evenly into the plate: No needs of mixing and dilution after sampling.
- 4) Dried plate and one and half 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.
- 5) Clear color development by redox indicator: Easy to read the results. Isolated colonies can be subcultured individually to other media.
- 6) Good correlation with the Yeast extract Agar method.

*Intended Use

This product is intended for use by microbiologists for the enumeration of Total Viable Count for Water testing.

*Test Kit Components

- 1) CompactDry™ AQ Plates

*Additional Reagents and Supplies Required, Not Provided

- 1) Saline solution diluent

Apparatus

- 1) Stomacher or equivalent for homogenizing sample.
- 2) Pipets – 1 mL
- 3) Incubator – capable of maintaining 36 ± 2°C (Filter /SMEWW method) or 22 ± 2°C (ISO6222:1999)

Operating Procedure

Preparation of specimen

- 1) Viable count in water
Drop 1 ml of the tested water on the middle of the Compact Dry plate. The sample will diffuse equally all over the Compact Dry AQ plate.
- 2) Viable count using filter technology
For membrane water filter samples, use a 47 mm Mixed Cellulose Ester filter (MCE; 0.45 µm pore size). Prior to applying the filter on the Compact Dry plate, pre-wet the plate with 1 ml buffer. After water filtration place the filter in the center of the Compact Dry AQ Plate, grid side up.

*Direction for CompactDry™ AQ

- 1) Open the aluminum pouch and take out a set of 4 plates.
- 2) Detach the necessary number of plate(s) from a set of four by bending up and down while pressing the lid. Use a connected set of four plates when serial dilution measuring is intended. Write the appropriate information in the memorandum section.
- 3) Remove the lid from the plate, pipette 1 mL of sample in the middle of the dry sheet and replace the lid. Specimen diffuses automatically and evenly over the entire sheet (20 cm²) to transform it into a gel.
- 4) Invert the lidded plate and place in incubator at 36 ± 2°C for 44 ± 4 hours or 22 ± 2°C for 68 ± 4 hours.
- 5) From the backside of the plate, count the number of red colonies in the medium. White paper placed under the plate can make colony count easier.

Precaution for use

- 1) Do not use CompactDry™ AQ for human and animal diagnosis.
- 2) During inoculation, do not touch the surface of medium.
- 3) During incubation, keep lid tight to avoid any possible dehydration.
- 4) Use of filtered stomacher bags is recommended to eliminate risks of carryover of tiny pieces of foodstuffs onto the surface of the medium.
- 5) The enumeration range is 1 – 300 cfu/plate. Dilute samples further in the appropriate diluent as necessary to achieve a concentration level in the countable range.
- 6) If the nature of sample affects the reaction of the medium, inoculate the sample only after the factor has been eliminated by means such as dilution, pH adjustment, or others. This may include samples with high viscosity, deep color, or too high or too low pH.

Interpretation

It is composed of a nutrient-poor culture medium for bacteria adapted to nutrient-poor conditions. The chromogenic substrate results in red heterotrophic bacteria colonies after incubation, allowing simplified visualisation and enumeration.

*Precaution for interpretation

- 1) If more than 10⁴ cfu/mL were inoculated onto a plate, no distinguishable colored colonies will form, and the entire plate may become colored.
- 2) The medium size is 20 cm², and the back of container has a carved grid of 1 cm x 1 cm to make colony counting easier. When it is difficult to count the colonies due to a great large number of colonies grown in the medium, the total colony number can be obtained by multiplying 20 by an average number of colonies per grid (1 cm x 1 cm) calculated from representative grids.

*Warning and Direction for Use

1. General precautions

- 1) Read and precisely follow the warnings and directions for use described in the package insert and/or label.
- 2) Do not use the product after its expiration date. The quality of the product is not guaranteed after its shelf life.
- 3) Do not use products that contain any foreign materials, is discolored, or dehydrated, or has a damaged container.
- 4) Use plates as soon as possible after opening. Any unused plates should be returned to the aluminum pouch sealed with tape to avoid light and moisture and stored at room temperature.
- 5) Lid tightly after inoculation to avoid dehydration of gelled medium.

2. Safety Precautions

- 1) Wash immediately with water medium or reagent comes into contact with eyes or mouth. Consult a physician.
- 2) Manipulations with microorganisms involve certain risks of laboratory-acquired infections. Practice manipulations under the supervision of trained laboratory personnel with biohazard protection measures.
- 3) Treat laboratory equipment or medium that comes in contact with the sample as infectious and sterilize appropriately.

3. Precautions for disposal of waste

Sterilize any medium, reagent or materials by autoclaving or boiling after use, and then dispose of it as industrial waste according to local laws and regulations.

4. User Responsibility

- 1) It is the 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 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.
- 3) It is the user's responsibility to validate the performance of this method for use with any non-certified matrix.

5. Limitation of Warranties

CompactDry™ plates are manufactured at an ISO 9001:2015 facility.

If any CompactDry™ plate is proven to be defective by fault of the manufacturer or its authorized distributors, they may replace or, at their discretion, 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: Twenty-four (24) months after manufacturing.

Shelf life is printed on both label of outer box and aluminum pouch.

* Package

CompactDry™ AQ 100 plates

Code HS9541

* Further information

Customer Support Section

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