

## Chapman Stone Medium (without Membrane Filter)

MF008

For detection and enumeration of *Staphylococci* .

### Composition\*\*

| Ingredients                | Gms / Litre |
|----------------------------|-------------|
| Casein enzymic hydrolysate | 10.000      |
| Yeast extract              | 2.500       |
| Gelatin                    | 30.000      |
| D-Mannitol                 | 10.000      |
| Sodium chloride            | 55.000      |
| Ammonium sulphate          | 75.000      |
| Dipotassium phosphate      | 5.000       |

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

The test sample should be filtered through a sterile membrane filter having pore size of 0.22µ / 0.45µ. Rehydrate the nutrient pad with 2.0-2.5 ml sterile distilled / purified water. After filtration, remove the membrane filter aseptically using sterile forceps. Place the membrane filter on rehydrated nutrient pad. Incubate the inoculated nutrient. Interpret the results qualitatively by observing the presence or absence of growth and quantitatively by counting the number of colonies on the surface of the membrane filter and calculating CFU/ml.

### Principle And Interpretation

Field of Application: Food, pharmaceuticals, cosmetics and other samples. DriFilter Membrane Nutrient Pad Medium are ready to use sterile culture media in the form of a 50 mm biological inert absorbent pads impregnated with standard culture medium, then dried and sterilized in 55 mm Petri plate. They eliminate the need of laborious media preparation and autoclaving procedures. The nutrient pads are to be just rewetted with sterile distilled water and are ready to use. Use of nutrient pads allows larger sample volumes to be tested at a time. Interpretation of results is directly by counting the CFUs and also quantifies the microbial load present in the sample. Chapman Stone medium is a selective media used for the isolation of food poisoning staphylococci. Foods commonly contaminated with *S. aureus* included synthetic creams, custards and high-salted food. Chapman Stone Agar is prepared according to the modification of Staphylococcus Medium 110 described by Chapman(1). It is similar to Staphylococcus Medium 110, previously described by Chapman (2), except that the sodium chloride concentration is reduced to 5.5% and additionally ammonium sulfate is included in the formulation. The main modification consist the inclusion of ammonium sulfate in the medium that allows the direct observation of gelatin hydrolysis, instead of adding reagents to the plate medium. Chapman Stone Medium is especially recommended for suspected food poisoning studies involving Staphylococcus (3). It is selective, due to the relatively high salt content, and is differential due to pigmentation, mannitol fermentation and the presence or absence of gelatin liquefaction. Material under test is inoculated on the surface and incubated at 30°C for 48 hours to produce separated colonies. After incubation, cream to golden yellow colonies are presumptively identified as *S. aureus* . While, white or non-pigmented colonies, are presumptively identified as *S. epidermidis* .

### Quality Control

#### Appearance

Dry filter membrane pad of 50mm diameter

#### Colour

Pale coloured nutrient pad

**Sterility test**

Passes release criteria

**Cultural response**

Cultural characteristics observed after incubation at 35-37°C for 18-48 hours.

| <b>Organism</b>                                 | <b>Growth</b> | <b>Colour of colony</b> |
|---|---------------|-------------------------|
| <i>Staphylococcus epidermidis</i><br>ATCC 12228 | Luxuriant     | Colourless              |
| <i>Staphylococcus aureus</i><br>ATCC 25923      | Luxuriant     | Colourless              |

**Storage and Shelf Life**

Store between 10-30°C. Use before expiry date on the label.

**Reference**

1. Chapman G. H., 1949, J. Bacteriol., 58:823 2. Chapman G. H., 1948, Food Res., 13:100. 3. Stone, 1935, Proc. Soc. Exp. Biol. N.Y., 33:18

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