TM 1290 - SHAPTON MEDIUM

INTENDED USE

For enumeration of Bacillus *stearothermophilus* spores from canned foods with pH>4.5.

PRODUCT SUMMARY AND EXPLANATION

Bacillus stearothermophillus is a thermophile that is widely distributed in soil, hot springs, ocean sediment, and is a cause of spoilage in food products. It is commonly used as a challenge organism for steam sterilization validation studies. Flat sour spoilage occurs chiefly in low acid foods, such as peas, corn and lima beans but can also occur in medium acid foods such as spinach, green beans etc. Shapton and Hindes formulated the medium for the enumeration of spores of *Bacillus stearothermophilus*, which cause flat sour spoilage in canned foods with pH more than 4.5.

The sample under test is suspended in Ringers salt solution and then added to sterile molten Shapton Medium and is held at 100°C for 20 minutes. Then the temperature is slightly raised to 108.4°C and maintained for 10 minutes after which this is cooled to 50°C and plates are poured. The plates are incubated at 55°C for 48 hours.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	2.500
Peptic digest of animal tissue	5.000
Beef extract	3.000
Yeast extract	1.000
Dextrose	1.000
Bromo cresol purple	0.025
Agar	15.000

PRINCIPLE

Casein enzymic hydrolysate, peptic digest of animal tissue, beef extract and yeast extract in the medium provide carbon, nitrogen, vitamins and minerals required for bacterial metabolism. Dextrose is the fermentable carbohydrate. Bromocresol purple is the pH indicator, indicating dextrose fermentation visualized as a colour change from purple to yellow.

INSTRUCTION FOR USE

- Dissolve 27.53 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to grey homogeneous free flowing powder.
Appearance of prepared medium : Light purple coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.4±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

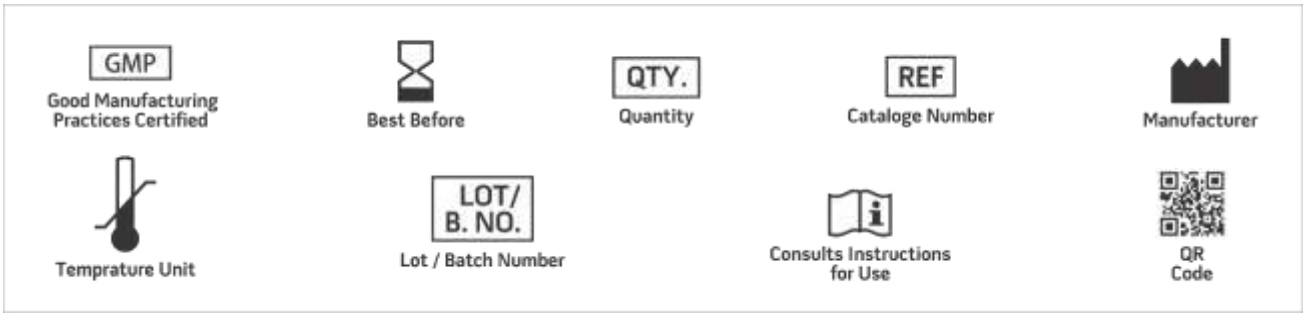
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
Bacillus stearothermophilus	7953	50-100	Luxuriant	>=70%	Yellow	55°C	18-48 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. Shapton D. A. and Hindes W. R., 1963, Chemistry and Industry, p. 230.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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