

Shapton Medium

Shapton Medium is recommended for enumeration of spores of *Bacillus stearothermophilus*

REF: BS.1/NZ01.100.0100	100	REF: BS.1/NZ01.250.0250	250 Gram
Gram			
REF: BS.1/NZ01.500.0500	500		
Gram			

PRINCIPLE AND INTERPERTATION :

Bacillus stearothermophilus 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 (1) 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. 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. 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.

MEDIA COMPOSITION

Item	Formula per liter of medium
Casein enzymic hydrolysate	2.50 gm
Peptic digest of animal tissue	5.00 gm
Yeast extract	1.00 gm
Beef extract	3.00 gm
Dextrose	1.00 gm
Bromo cresol purple	0.025 gm
Agar	15.00 gm

Final pH (at 25°C) 7.4 ± 0.2 ** Formula adjusted, standardized to suit performance parameters.

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.

S61: avoid release in environment.

For further information, refer to the Mueller Hinton Agar material safety data sheet.

STORAGE AND STABILITY

BioScien Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

PREPARATION

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

Deterioration

The color of **BioScien** shapton Medium is Light yellow to grey homogeneous, free flowing powder. Prepared Medium, Light purple coloured, clear to slightly opalescent gel forms in Petri plates. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile petri dishes
- Incubator
- Autoclave

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed after an incubation at 55°C for 18 - 48 hours.

Organisms (ATCC)	Growth
<i>Bacillus stearothermophilus</i> ATCC 7953	good-luxuriant

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control still out of range please contact **BioScien** technical support.

REFERENCE

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

SYMBOLS IN PRODUCT LABELLING		
	For in-vitro diagnostic use	 Number of <n> test in the pack
	Batch Code/Lot number	 Caution
	Catalogue Number	 Do not use if package is damaged
	Temperature Limitation	 Consult Instruction for use
	Expiration Date	
	Manufactured by	