



## Standard Methods Agar w/Starch

M1860

Standard Methods Agar w/Starch is recommended for the detection of aerobic bacterial spores.

### Composition\*\*

Ingredients	Gms / Litre
Pancreatic digest of casein	5.000
Yeast extract	2.500
Glucose	1.000
Soluble starch	1.000
Agar	15.000

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

### Directions

Suspend 24.50 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.

### Principle And Interpretation

Standard Methods Agar w/Starch is formulated as described by Buchbinder et al (1) which is recommended by APHA (2,3,4) and FDA (5).

Pancreatic digest of casein provides amino acids and other complex nitrogenous substances. Yeast extract supplies Vitamin B complex. APHA recommends the use of pour plate technique. The samples are diluted and appropriate dilutions are added in Petri plates. Sterile molten agar is added to these plates and plates are rotated gently to ensure uniform mixing of the sample with agar. The poured plate count method is preferred to the surface inoculation method, since it gives higher results. Standard Methods Agar w/Starch is also suitable for enumerating bacterial count of sterile rooms.

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.5% Agar gel

#### Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in Petri plates

#### Reaction

Reaction of 2.35% w/v aqueous solution at 25°C. pH : 0.0±0

#### Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 48 hours (\*after addition of iodine).

#### Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Starch hydrolysis*
<b>Cultural Response</b> <i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	≥70%	Positive reaction, clearing around the colony
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	≥70%	Negative reaction
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	≥70%	Negative reaction
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant	≥70%	Negative reaction

## Storage and Shelf Life

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

## Reference

1. Buchbinder L., Baris Y., Aldd E., Reynolds E., Dilon E., Pessin V., Pincas L. and Strauss A., 1951, Publ. Hlth. Rep., 66:327.
2. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
3. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
4. Eaton A. D., Clesceri L. S. and Greenberg A. E., Rice E. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
5. FDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, DC.

Revision : 2 / 2015

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