Technical Information

Bromo Cresol Purple Azide Broth

Product Code: DM 2212

Application: - Bromo Cresol Purple Azide Broth is used for the confirmation of the presence of faecal Streptococci in water and waste water.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	10.000
D-Glucose	5.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.700
Potassium dihydrogen phosphate	2.700
Sodium azide	0.500
Bromocresol purple	0.032
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Enterococci are extensively distributed in different habitats. The faecal *Streptococcus* group of Enterococoi portion is a valuable bacterial indicator for determining the extent of faecal contamination of recreational surface waters. Studies indicate that swimming associated gastroenteritis is directly related to the quality of bathing water and that enterococci are one of the most efficient bacterial indicators of water quality [1, 2]. Bromo Cresol Purple Azide Broth formulated by Hajna & Perry [3] is used for the confirmation of the presence of faecal streptococci in water and wastewater. This medium is used for testing water samples, after preliminary testing of water samples in Azide Dextrose broth (DM1345). Bromo Cresol Purple Azide Broth is recommended by APHA for enumerating faecal streptococci by the MPN technique [4]. Bromo Cresol Purple Azide Broth has dextrose (D-glucose) as the fermentable carbon source and bromocresol purple as an indicator. The colour change of the medium from purple to yellow indicates fermentation of dextrose (D-glucose) and subsequent acid production. According to Hajna, enterococcal dextrose fermentation is improved by the addition of glycerol [3]. Casein enzymic hydrolysate and yeast extract supply nitrogenous compounds, sulphur, amino acids and trace ingredients. Sodium chloride maintains osmotic balance of the medium. Sodium azide inhibits the entire bacterial flora including those species that may have grown in the preliminary test media. Colour change to yellow with turbidity indicates and confirms the growth of Enterococci.

Methodology

Suspend 35.93 grams of powder media in 1000 ml distilled water. Add 5 ml glycerol if desired. Shake well & heat, if necessary to dissolve the medium completely. Dispense into test tubes and sterilize by autoclaving at 115°C for 15 minutes. Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

Quality Control

Physical Appearance

Light yellow to beige homogeneous free flowing powder

Colour and Clarity of prepared medium

Purple coloured, clear solution without any precipitate

Reaction

Reaction of 3.6% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range

6.80-7.20

Cultural Response/Characteristics

M2212: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Gas
Enterococcus faecalis ATCC 29212	50-100	Good-Luxuriant	Positive reaction, yellow colour
Escherichia coli ATCC 25922	>=10^3	inhibited	
Pseudomonas aeruginosa ATCC 27853	>=10^3	inhibited	
Streptococcus agalactiae ATCC 13813	50-100	None-poor	Negative reaction, no colour change
Streptococcus pyogenes ATCC 19615	50-100	None-poor	Negative reaction, no colour change

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Cabelli V. J., 1983, EPA-600/1-80-03 1, U. S. Environmental Protection Agency, Cincinnati, Ohio.
2. Dufour A. P., 1984, EPA-600/1-84-004, U. S. Environmental Protection Agency, Cincinnati, Ohio.
3. Hajna A.A. and Perry C.A., 1943, Am. J. Publ. Health, 33:550.
4. Hajna A.A., 1951, Public Health Lab., 9:80-8 1.

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