FECAL COLIFORMS BROTH BASE (m-FC)

CAT Nº: 1121

For the cultivation and enumeration of fecal coliforms in water by the membrane-filtration technique at a high temperature

FORMULA IN g/l

Lactose	12.50	Yeast Extract	3.00
Tryptose	10.00	Bile Salts Nº 3	1.50
Proteose Peptone Nº3	5.00	Aniline Blue	0.10
Sodium Chloride	5.00		

Final pH 7.4 ± 0.2 at 25ºC

PREPARATION

Suspend 37.1 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Cool to 45-50ºC and aseptically add 2 vials, each vial for 500 ml of the medium, of Fecal Coliforms Supplement (Cat. 6023), previously? reconstituted in 5 ml of 1% 0.2 N NaOH solution. Boil for one minute until complete dissolution. Cool to 45-50ºC and pour 2 ml of the broth medium onto each sterile absorbent pad placed on Petri dishes. DO NOT AUTOCLAVE. The prepared medium should be stored at 2-8°C. The color of the prepared medium without supplement is gray-blue. The color of the prepared medium with supplement is red.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

Fecal Coliforms Supplement (Cat. 6023) (Composition each vial for 500 ml)
Rosolic Acid..... 50 mg

USES

FECAL COLIFORMS BROTH BASE (m-FC) is prepared according to the formula proposed by Geldreich, Clark and Bert, and is used for the cultivation and enumeration of fecal coliform microorganisms. This medium is suitable for the membrane filtration technique at a high temperature. Many standard procedures specify the use of Fecal Coliforms Media for testing water and foods.

Fecal coliforms are differentiated from other coliforms from environmental sources by their ability to grow at 44.5 ± 0.5°C.

Proteose and Tryptose provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is the source of vitamins, particularly of the B-group essential for bacterial growth. Lactose is the fermentable carbohydrate as a carbon and energy source. Bile salts inhibit growth of Gram-positive bacteria. Sodium chloride maintains the osmotic balance. Aniline Blue and Rosolic Acid are the differential indicators and suppress the growth of Gram-positive bacteria.

Place the membrane filter, which the sample has been filtered through, on the upper part of the saturated pad with the medium in the Petri dish (55 mm diameter). Close the dish. Incubate for 24 ± 2 hours, one lot as a control at 35 ± 2°C, the rest at 44.5 ± 0.5°C. Observe coliforms and count the colonies.

The differential indicator system (aniline blue and rosolic acid) gives the colonies of fecal coliforms a blue color, while the rest of microorganisms will become gray to cream-colored.

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium, with Fecal Coliforms Supplement (Cat. 6023) added, from type cultures after incubation at both temperatures of 35± 2ºC and 44.5 ± 0,5 ºC, and observed after 24 ± 2 hours. Following the membrane filtration technique.

Microorganisms	Growth		Colony Color
	44.5ºC	35ºC	
Escherichia coli ATCC 25922	Good	Good	Blue
Salmonella typhimurium ATCC 14028	Inhibited	Good	Gray
Shigella flexneri ATCC 12022	Inhibited	Good	Gray
Enterococcus faecalis ATCC 19433	Inhibited	Inhibited	

BIBLIOGRAPHY

Geldreich, Clark and Kabber, 1963. USPHS, HEN. Personal Communication.
Geldreich, Clark, Huff and Bert, 1965. Journal of American water works Association, 57:208..

STORAGE

Once opened keep powdered medium closed to avoid hydration.