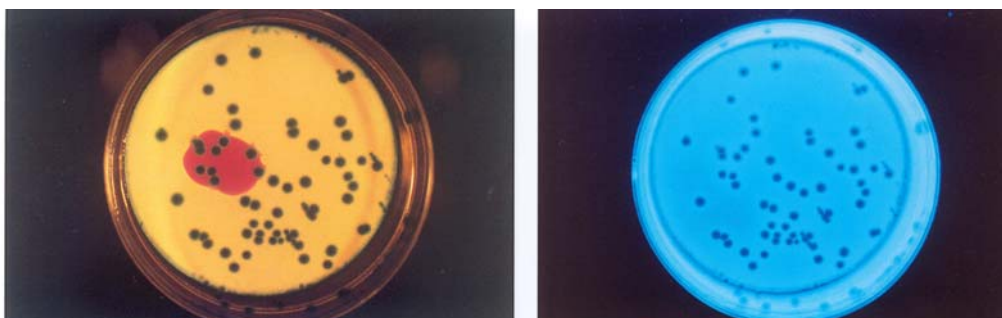


## C- EC MF PLATES

Chromogenic and fluorogenic medium ready to use in plates for the simultaneous detection of total coliforms and *Escherichia coli* in water and foodstuffs.



C-EC MF Plate: left: *Escherichia coli* sunlight; right: *Escherichia coli* under Wood's Lamp. The strain is indole positive and strongly fluorescent ( $\beta$ -Glucuronidase positive).

### TYPICAL FORMULA (g/l)

Tryptose	10.00
Tryptophan	1.00
Peptocomplex	5.00
Yeast Extract	3.00
Sodium Chloride	5.00
Bile Salts n. 3	1.50
IPTG	0.10
X-GAL	0.08
MUG	0.05
Agar	13.00

Final pH 7.4  $\pm$  0.2

### DESCRIPTION

The detection and enumeration of faecal indicators is one of the main tests for estimating the microbiological quality of waters. The usual methods require from 24 till 72 hours to get complete results, and give some false positive and false negative or doubtful results due to late or weak lactose metabolism.

C-EC MF Plates allow a quantitative detection in 18-24 hours of total coliforms and *E. coli* through a method based on the enzymatic hydrolysis of fluorogenic and chromogenic substrates by means of  $\beta$ -galactosidase ( $\beta$ -GAL) and  $\beta$ -glucuronidase ( $\beta$ -GLU).

C-EC MF Plates are prepared with a selective agar base, supplemented with 5-bromo-4-chloro-3-indolyl- $\beta$ -D-galactopyranoside (X-GAL), 4-methylumbelliferil- $\beta$ -D-glucuronide (MUG), isopropyl- $\beta$ -D-thiogalactoside (IPTG) and tryptophan.

This medium allows the selective growth of *Enterobacteriaceae* and of a few other Gram-negative bacteria, being Gram positive inhibited by the selective agents present in the substrate.

Among *Enterobacteriaceae*, the coliforms have the  $\beta$ -galactosidase enzyme, hydrolyse the X-GAL compound, and grow with blue green colonies; *E. coli* hydrolyses X-GAL and MUG with formation of umbelliferone, strongly fluorescent when the plates are observed under Wood's lamp. The hydrolysis of X-GAL is enhanced by IPTG, a lactose operon inducer. The indole test can confirm the presence of *E. coli* by adding a drop of Kovacs' reagent to the colonies.

### TECHNIQUE

Filter through a 0.45 $\mu$ m membrane an appropriate volume of water (100-10-1-0.1-0.01ml) according to the degree of pollution expected. Lay the filter membrane on the surface of C-EC MF Plate.

Incubate at 30°C for 18-24 hours for the enumeration of *E. coli* and total coliforms.

Incubate at 44°C for 18-24 hours for the enumeration of *E. coli* and faecal coliforms.

*E. coli* grows on the medium with blue-green colonies, fluorescent when observed under a Wood's lamp, positive to indole test.

Coliform bacteria other than *E.coli* grow with blue-green colonies not fluorescent under Wood's lamp. Other Enterobacteriaceae may grow with colourless colonies.

**STORAGE**

Store at 2-8° - When stored as directed the plates remain stable until the expiry date shown on the label. Do not use beyond stated expiry date.

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**PACKAGING****497101****C - EC MF Plates****30 ready to use 55 mm plates**