TM 1858 - CHROMOGENIC COLIFORM AGAR (ISO 9308-1:2104, ISO 11133:2014)

INTENDED USE

For determination of coliforms and *Escherichia coli* in water samples.

PRODUCT SUMMARY AND EXPLANATION

Coliforms including *Escherichia coli* are used as primary indicators of faecal contamination in water and food industries. Their presence and enumeration in samples is used as an index of the presence of faecal matter and is indicative of the possible presence of enteric pathogens. Chromogenic Coliform Agar (CCA) is a fast, accurate, and efficient way to detect coliforms and *E. coli* during microbiological quality testing of water and food samples. *Escherichia coli* are also the most common pathogen in urinary tract infections. This product incorporates the company's chromogenic galactoside that detects clinical levels of coliforms with high sensitivity. The composition and performance criteria of this medium are as per the specifications laid down in ISO 9308-1:2014

COMPOSITION

Ingredients	Gms / Ltr
Agar	10.000
Sodium Chloride	5.000
Disodium hydrogen phosphate	2.700
Sodium dihydrogen phosphate (2H2O)	2.200
Yeast extract	2.000
Enzymatic digest of casein	1.000
Sodium pyruvate	1.000
Sorbitol	1.000
Tryptophan	1.000
Salmon-β-D-galactoside	0.200
Sodium heptadecylsulphate (Tergitol 7)	0.150
X-glucuronide	0.100
Isopropyl 1-β-D- thiogalactopyranoside (IPTG)	0.100

PRINCIPLE

This medium contains enzymatic digest of casein, yeast extract, sorbitol and sodium pyruvate as sources of carbon, nitrogen, fermentable carbohydrate and other essential growth nutrients for the growth of microorganisms. Disodium hydrogen phosphate and sodium dihydrogen phosphate are the buffering agents. Sodium chloride maintains the osmotic equilibrium in the medium. L- Tryptophan improves the indole reaction and gives improved differentiation between *Escherichia coli* and other coliforms. Tergitol- 7 inhibits gram positive bacteria. The two chromogens used; salmon-β-D-galactoside and X-glucuronide helps in differentiation of *Escherichia coli* and other coliforms on the basis of colony colour. The enzyme β-D-galactosidase cleaves salmon-β-D-galactoside, and gives a salmon to red colour to the coliform bacteria. *E. coli* have β-D galactosidase and β-D-glucuronidase enzymes to cleave both the chromogens, which give blue-violet colour to colonies. Expression of β-Dgalactosidase is strengthened in the presence of IPTG. Agar is a gelling agent.

INSTRUCTION FOR USE

- Dissolve 26.45 grams in 1000 ml of distilled water.

- Gently heat to boiling with swirling to dissolve the medium completely. Do not autoclave the medium and avoid overheating.
- Cool to 45-50°C and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	:	Cream to yellow coloured, homogeneous free flowing powder
Appearance of prepared medium	:	Light yellow coloured, opalescent gel
pH (at 25°C)	:	6.8± 0.2

INTERPRETATION

Cultural characteristics observed after incubation. Recovery rate is 100% for bacterial growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Appearance of colony	Recovery	Incubation Temp.	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Dark blue to violet	>=70%	35-37°C	18-24 Hours
#Klebsiella aerogenes	13048	50-100	Luxuriant	Pink to red	>=70%	35-37°C	18-24 Hours
Citrobacter freundii	43864	50-100	Luxuriant	Pink to red	>=70%	35-37°C	18-24 Hours
Enterococcus faecalis	19433	≥1000	Inhibited	-	0%	35-37°C	18-24 Hours
Salmonella enteritidis	13076	50-100	Luxuriant	Colourless	>=70%	35-37°C	18-24 Hours

#Formerly known as *Enterobacter aerogenes.*

PACKAGING

In pack size of 100gm & 500gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

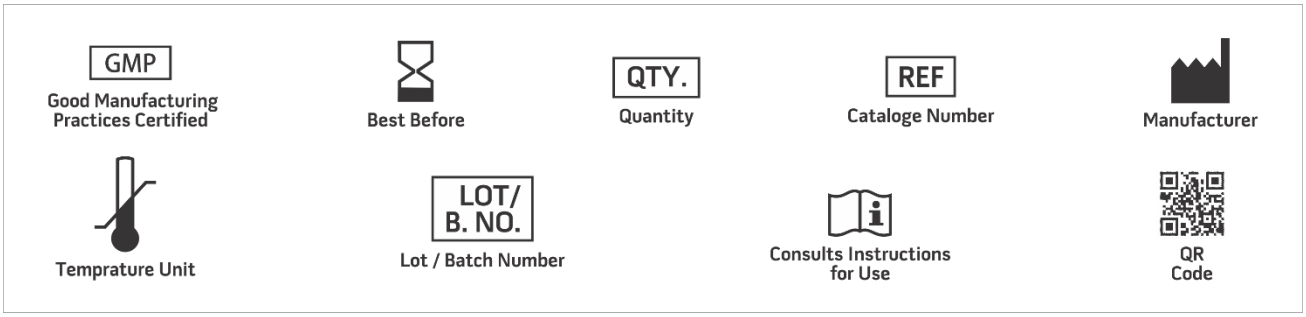
Product Deterioration: Do not use if powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. ISO 9308-1/2014. Water quality — Enumeration of Escherichia coli and coliform bacteria —Part 1: Membrane filtration method for waters with low bacterial background flora.
2. Frampton, E.W., Restaino, L. and Blaszko, N. 1988. J. Food Prot. 51: 402-404.
3. Kilian, M. and Bulow, P. 1979. Acta. Pathol. Microbiol. Scand. (Section B) 87: 271-276.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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