OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

OXYcrome Chromogenic Coliform Agar

Principle

Chromogenic Coliform Agar is a selective medium recommended for the simultaneous detection and recovery of sub-lethally injured coliforms in water samples. The CCA media is composed of tryptone, yeast extract, sodium chloride, sodium dihydrogen phosphate, disodium hydrogen phosphate, sodium pyruvate, sorbitol, tryptophan, tergitol-7 and three chromogenic substrates. The three chromogenic substrates are 6chloro-3-indoxyl β-D-galactopyranoside, 5-bromo-4-chloro-3-indoxyl- β-D-glucuronic acid cyclohexamine ammonium salt, monohydrate and IPTG (Isopropyl-β-D-thiogalactopyranoside). Tryptone, sodium pyruvate and sorbitol provide nitrogenous substances, fermentable carbohydrate and other essential growth nutrients for the organisms. The L-Tryptophan improves the indole reaction thus increasing the revealing reliability. Sodium dihydrogen phosphate, disodium hydrogen phosphate buffers the medium. Tergitol-7 inhibits grampositive as well as some gram-negative bacteria other than coliforms. The enzyme ß-D-galactosidase produced by coliforms hydrolyzes 6-chloro-3-indoxyl-β-D-galactopyranoside to form pink to red colored colonies. The enzyme ß-D-glucuronidase produced by E.coli, cleaves 5-bromo-4chloro-3-indoxyl-β-Dglucuronic acid. Colonies of E.coli give dark blue to violet colored colonies due to cleavage of both the chromogens. The presence of the third chromogenic IPTG enhances the color of reaction.

Use: For determination of coliforms and Escherichia coli in water samples.

Contents*

Ingredients	Gram/Litre
Tryptone	1.000
Yeast extract	2.000
Sodium chloride	5.000
Sodium dihydrogen phosphate	2.200
Disodium hydrogen phosphate	2.700
Sodium pyruvate	1.000
Sorbitol	1.000
Tryptophan	1.000
Tergitol-7	0.150
Chromogenic mixture	0.400
Agar	15.000
pH at 25˚C	6.8 ±0.2

*** Formula adjusted for optimum performance and parameters**

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Directions: Dissolve 31.00 grams (the equivalent weight of dehydrated medium per liter) in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. DO NOT OVERHEAT. Cool to 45-50°C. Mix well and distribute aseptically in petri plates and allow to solidify. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Water samples - Water and wastewater.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	**Light beige colored, free-flowing, homogeneous**
Reaction of 3.10% solution	**6.8 ±0.2 at 25 ˚C**
pH	**6.60- 7.00**
Gelling	**Firm comparable with 1.5% agar gel**
Color and clarity of ready medium	**Light amber, clear opalescent gel**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

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Different Microbial Response: Cultural characteristics observed after an incubation at 35±2°C for 18-24 hours. Inoculum 50-100 CFU.

Organism	ATCC	Growth	Recovery	Colony color
Escherichia coli	8739	Luxuriant	≥ 60%	Pinkish purple
Escherichia coli	25922	Luxuriant	≥ 60%	Pinkish purple
Pseudomonas aeruginosa	10145	Luxuriant	≥ 60%	Colorless
Salmonella Typhimurium	14028	Luxuriant	≥ 60%	Colorless
Klebsiella aerogenes	13048	Luxuriant	≥ 60%	Pale Pink
Staphylococcus aureus	25923	Inhibited	--	--

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label.
Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. ***Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.***
2. ***Baird R.B., Eaton A.D., and Rice E.W., (Eds.), (2015), Standard Methods for the Examination of Water and***
3. ***International Organization for Standardization (2014). Water quality: Enumeration of E. coli and coliform bacteria. Part I Membrane filtration methods for bacteria with low bacterial background flora. ISO 9308-1:2014.***
4. ***Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015), Manual of Clinical Microbiology, 11th Edition. Vol. 1 Wastewater, 23rd Ed., APHA, Washington, D.C.***

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