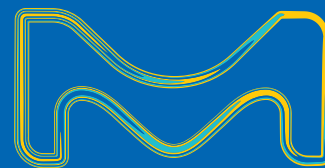


Millipore®

Preparation, Separation,
Filtration & Monitoring Products

Data Sheet



Chromocult® Coliform Agar

Simultaneous detection of coliform bacteria
and *E. coli* in water

Chromocult® Coliform Agar
EPA approved

ISO 9308-1 from 2014

The life science business of Merck
operates as MilliporeSigma in the
U.S. and Canada.

MERCK



The original medium used for the revised ISO 9308-1 (2014): Chromocult® Coliform Agar to be used to detect and enumerate *E. coli* and coliform bacteria in water

Introduction

The revised ISO 9308 part 1 (2014) with the amendment 1 (2016) describes the usage of membrane filtration and a chromogenic coliform agar for enumeration of *Escherichia coli* and coliform bacteria in:

- drinking water
- disinfected pool water
- finished water from treatment plants.

Our Chromocult® Coliform Agar (CCA) is the original: the only chromogenic culture medium which was used for all validation studies that were needed to prepare this new ISO 9308 -1 standard. The procedure takes much less time for positive results than the 48 hours needed for the previous ISO 9308 part 1 (2000) method using Lactose TTC agar, and the new method requires no additional culture media for result confirmation. In addition, Chromocult® Coliform Agar is a US EPA approved membrane filter medium that simultaneously determines the presence of total coliforms and *E. coli*, both of which must be monitored under the Total Coliform Rule at § 141.21.

The principle

Chromocult® Coliform Agar is a selective and differential chromogenic culture medium for the microbiological analysis of water samples. Within 24 hours this medium enables the simultaneous detection, differentiation and enumeration of *E. coli* and coliform bacteria in drinking water.

Counting of coliform bacteria is based on the ability of β -D-galactosidase, an enzyme which is characteristic of coliform bacteria, to cleave the substrate Salmon-GAL. The reaction results in salmon red colored coliform bacteria colonies.

Counting of *E. coli* is based on the cleavage of both the substrates X-glucuronide by β -D-glucuronidase and Salmon-GAL by β -D-galactosidase, an enzyme combination, which is characteristic of *E. coli*. In the presence of *E. coli* both substrates are cleaved, resulting in colonies that take on a dark blue to violet color as opposed to the salmon red of other coliform bacteria colonies. Non-coliform bacteria appear as colorless or in rare cases as turquoise colonies. The CCA formulation contains sodium heptadecylsulfate (e.g. Tergitol® 7) as an inhibitor of Gram-positive bacteria with no negative effect on the growth of the targeted coliform bacteria / *E. coli*.

Advantages

of the revised ISO 9308-1 method over ISO 9308-1 (2000):

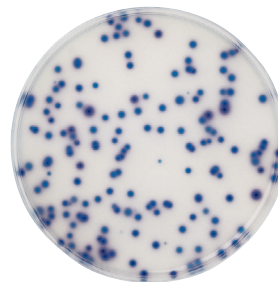
- **Save time:** Up to 24 hours faster than the old Lactose TTC agar method.
- **Clear results:** Easy counting of *E. coli* and coliform bacteria by color when using CCA.
- **Save costs:** No additional culture media needed for confirmation. Instead, one-minute confirmation of coliform bacteria using an inexpensive oxidase-based test strip.
- **Easier-to-do:** The CCA method is easier to perform than the Lactose TTC agar method.

Application

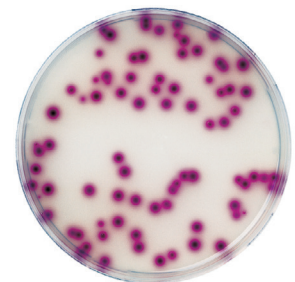
For water analysis, Chromocult® Coliform Agar is usually combined with membrane filtration:

- Filter appropriate volume of sample (e.g. 100 mL municipal drinking water, 250 mL bottled water) using membrane filter.
- Place filter on CCA ensuring that no air is trapped underneath.
- Incubate the inoculated dishes aerobically in an inverted position at 35-37 °C.
- After incubation, examine the plates for presence of typical colored colonies of *E. coli* and other coliform bacteria.

NOTE: The type and quality of membrane filter affects the size, coloration and number of colonies significantly. Our mixed cellulose ester filters were used in all ISO validation studies and supported the color formation and the growth of colonies very well. For more detailed information about the validation of CCA, including filter performance, see B. Lange, M. Strathmann, and R. Ossmer (2013). Letters Appl. Microbiol. 57, 547-553.

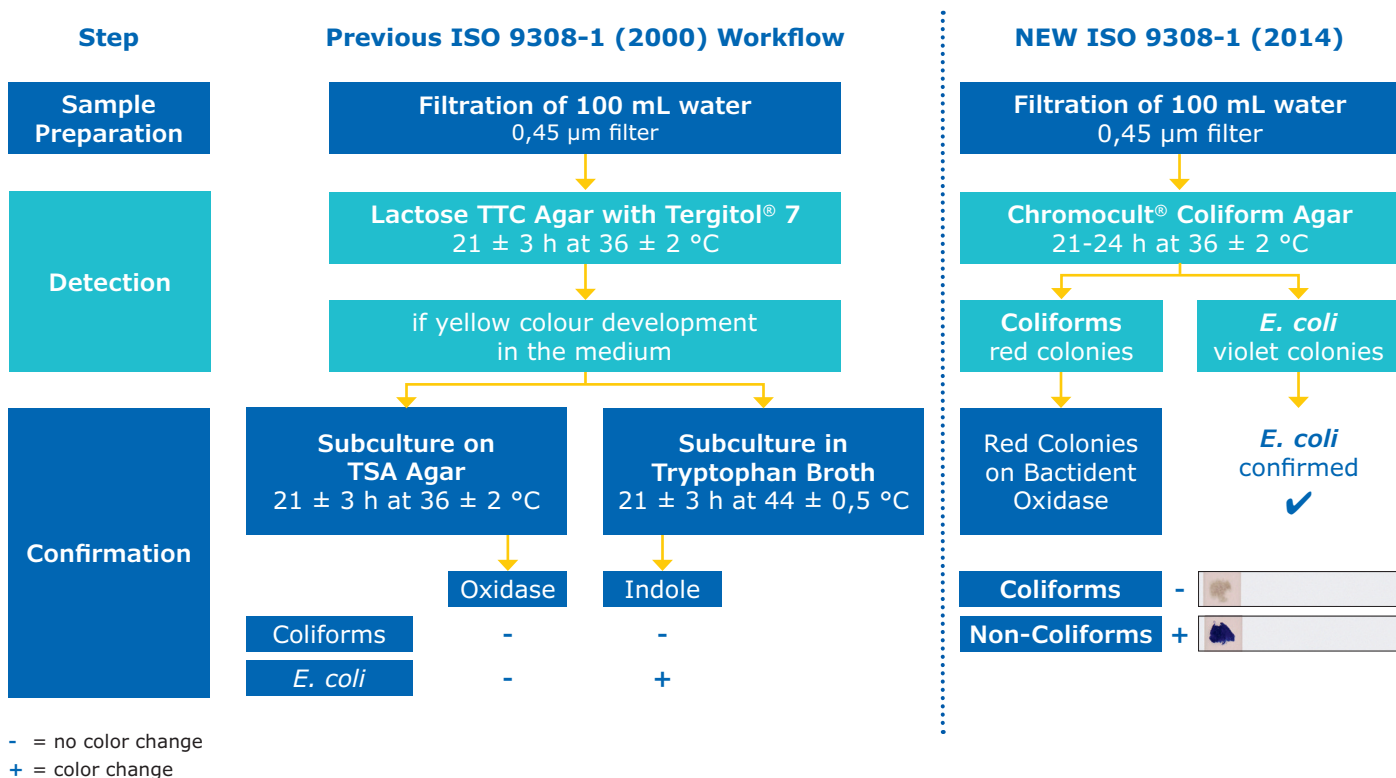


Escherichia coli ATCC 11775



Citrobacter freundii ATCC 8090

New ISO workflow makes your testing faster



Ordering Information

Order No.	Description	Pack size
1.10426.0500	Chromocult® Coliform Agar	500 g
1.46689.0020	ReadyPlate™ CHROM CCA ISO 9308	20x 90mm plates
1.46757.0020	ReadyPlate™ 55 CCA ISO9308	20x 55 mm plates
1.46757.0200	ReadyPlate™ 55 CCA ISO 9308	200x 55 mm plates
1.46758.0150	ReadyPlate™ 55 KIT CCA ISO9308	150x 55 mm plates & 150 membranes (ISO certified kit)
Additives		
1.13300.0001	Bactident® Oxidase	50 strips
EZHAWG474	Cellulose mixed ester filter (0,45 µm pore size)	
1.09293.0100	KOVACS Indole reagent	100 mL
1.11350.0001	Bactident® Indole	30 mL
EZSTREAM1	EZ-Stream® Vacuum Pump	
EZFITBASE 1,3,6	EZ-Fit® Manifold	
EZCURVE01	EZ-Pak® Dispenser Curve	

A full range of next generation filtration tools to complement CCA in water testing

1. EZ-Stream® Pump

The laboratory filtration pump that transfers filtered liquids directly to waste. Specially designed for microbiology analysis, the EZ-Stream® Pump is for handling both liquids and gases, making it suitable for many life science laboratory applications as well.



2. EZ-Fit® Manifold

Optimize your workflow and take control of your contamination risks. The new EZ-Fit® Manifold is specially designed for the microbiology analysis of contamination that can cause false positive results: all internal areas are accessible and can be cleaned efficiently and all components can be autoclaved.



3. EZ-Pak® Dispenser Curve

The next generation membrane dispenser for fast, robust, no-touch dispensing. The new EZ-Pak® Dispenser Curve revolutionizes filter handling in membrane filtration method testing by combining the benefits of high-speed sterile membrane dispensing, no-touch operability and single-handed membrane transfer. The clear benefits of the EZ-Pak® Dispenser Curve include fast and easy membrane loading, robustness and its ability to operate with or without the power cable.



4. EZ-Pak® Membranes

New ISO 9308-1 (2014) describes the test of a new membrane batch with each new batch of culture medium. Main features of our membranes are:

- High throughput: each cartridge contains 150 membranes. Less frequent reloading saves time.
- Visual traceability: the membrane catalog number, lot number, pore size and sequential number (from 150 to 1) are printed on the protective film of every membrane cell.
- Wide variety of membranes for many applications: pore sizes from 0.2 µm to 0.8 µm, diameters of 47 mm and 50 mm as well as a choice of white, black and green membranes.
- Detailed Certificate of Quality: pore size, flow rate, extractables, retention, recovery and sterility are tested and listed on the Certificate of Quality.



To place an order or receive technical assistance

[SigmaAldrich.com/contactPS](https://www.sigmaaldrich.com/contactPS)

For additional information, please visit: [SigmaAldrich.com](https://www.sigmaaldrich.com)

Merck KGaA
Frankfurter Strasse 250
64293 Darmstadt, Germany

