

Microfil® Filtration System

An easy to use, fast and accurate system for the routine microbiological analysis of your beverages and drinking water

The Microfil® filtration system is a simple and reliable solution for routine testing of raw materials, beverages and water for microbiological contamination. These tests are an important part of your quality assurance program. The standard testing method used in laboratories around the world for microbial analysis of fluids is membrane filtration. However, this method is technically demanding and requires time-consuming preparation, assembly and sterilization of the test apparatus.

With our Microfil® filtration system, you will eliminate time-consuming steps, equipment setup, waste, and autoclaving while improving the productivity of your lab. This cost-effective system uses presterilized, ready-to-use funnels and membranes on a filtration support.

Benefits

- No Preparation
- No Washing
- No Autoclaving
- No Clamps
- No Breakage
- No Filter Wrinkling
- No sample By-Pass



Minimize Clean-Up, Assembly and Autoclaving

Ready-to-use, ultra-thin 100 or 250 mL Microfil® funnels eliminate the need for washing and sterilizing after each test and make equipment handling easy. Packaged in convenient stacks of 25 or 30, the funnels are removed as needed from the custom designed funnel dispenser. Such vertical stacking of the funnels also optimizes lab space.

A range of pre-sterilized 47 mm diameter gridded membranes are available with the Microfil® funnels. Each membrane is individually sealed in pleated band (EZ-Pak® membranes) or in peel back envelopes (S-Pak® membranes). Polycarbonate membranes are also available.

Easy-to-Use with No Clamps and No O-Rings

The push-fit design of the Microfil® funnels seals tightly to manifold supports without the need for clamps or O-rings. This ensures leak-free operation and uniform microorganism recoveries.

Consistent Recoveries

Unlike with conventional filter holders, incomplete sealing at the membrane/funnel interface is eliminated resulting in uniform recovery of organisms. The smooth hydrophobic funnel surface repels sample residues and microorganisms to ensure that any microorganisms in your sample are collected on the membrane and not lost on the funnels walls. Pleating and distortion of the wet membrane due to expansion is avoided by the design of the support. As a result, uniform contact between the membrane and the medium is achieved.

Faster Filtration Rates

Due to the membrane support, filtration rates with the Microfil® filtration system are faster when compared to traditional filtration equipment.

Culture Media

You will find the full range of culture media (including broth and dehydrated media) on our website at **SigmaAldrich.com/Microbiology**.



Regulatory Requirements

The Microfil® filtration system method has been established with reference to International Standards allowing biological analysis to be conducted under optimum conditions and conforms to International Standards for drinking water and mineral water.

United States

- Standard Methods for the Examination of Water and Wastewater 22 edition, 2012

Europe

- EEC Directive 2009/54/EC of the European Parliament and of the council of 18th June 2009
- EC Directive 98/83/EC, 3 November, 1998, amended version EEC directive 2015/178, relating to the quality of water intended for human consumption

Worldwide

WHO Guidelines for Drinking Water Quality, 2017

ISO® Regulations

ISO® ISO 11731:2017: Water Quality

Water Quality - Enumeration of *Legionella*

ISO® 8199:2018: Water Quality

Water quality – General guidance on the enumeration of microorganisms by culture

ISO® 7899-2:2000: Water Quality

Detection and enumeration of intestinal enterococci – Part 2: Membrane filtration method

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

ISO® 19250:2010: Water Quality

Detection of *Salmonella* spp.

ISO® 26461-2:1986: Water Quality

Detection and enumeration of the spores of sulfite-reducing anaerobes (clostridia); Part 2: Method by membrane filtration

ISO® 7704:1985: Water Quality

Evolution of membrane filters used for microbiological analyses

ISO® 16266:2006: Water Quality

Detection and enumeration of *Pseudomonas aeruginosa* by membrane filtration

ISO® 14189:2013: Water Quality

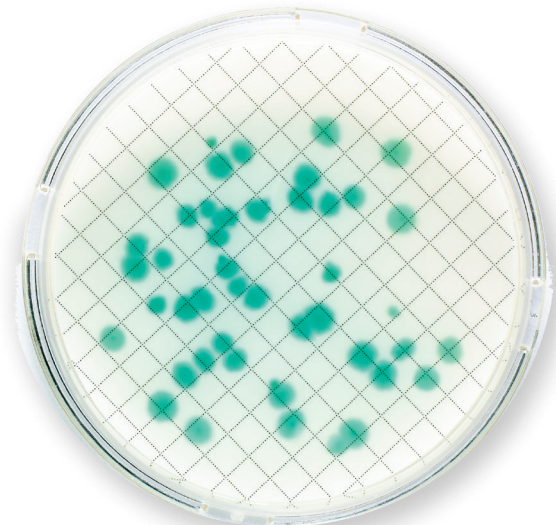
Enumeration of *Clostridium Perfringens* – Method using membrane filtration

ISO® 17995:2005: Water Quality

Detection and enumeration of thermotolerant *Campylobacter* species

Microfil® Filtration System Method Advantages

- Use of 47 mm gridded presterilized membranes
- 100 mL and 250 mL funnels for drinking water and mineral water analysis
- Hydrophobic funnel surfaces for improved recovery
- Smooth interior funnel surfaces with no scratches
- Lip seal to prevent membrane by-pass
- Food-contact-polymer funnels, free from agents that may inhibit bacterial growth
- Disposable funnels eliminate decontamination by flaming or use of alcohol
- Recyclable plastic funnel material that allows for greater environmental protection
- 0.45 µm membranes are certified in accordance with Standard Methods for coliform analysis



Processing an aqueous sample using the Microfil® filtration system can be done in 7 simple steps:

Step 1

Sanitize the Microfil® filtration system support prior to processing each sample. Recommended methods include the use of alcohol or a quick flaming of the Microfil® filtration system support steel surface.

Step 2

Place either an EZ-Pak®, S-Pak® or a polycarbonate membrane filter on the Microfil® filtration system support.



Step 3

Dispense a Microfil® funnel using the specially designed dispenser.



Step 4

Place the Microfil® funnel on the support and push down to fix it firmly in place.



Step 5

Pour the sample into the funnel and filter by applying vacuum.



Step 6

Remove the funnel. The tweezers are stopped by a protective rim to avoid touching the filtration area.



Step 7

Place the membrane filter into a Petri dish containing solid or liquid medium and incubate.



Step 8

Filter support can easily be removed for decontamination.



Ordering Information

150 Funnels and 150 S-Pak® Membranes

Each box contains 6 x 25 (100 mL) or 5 x 30 (250 mL) sterilized Microfil® funnels and 150 individually packed, sterilized 47 mm diameter gridded S-Pak® membranes, available with the following pore sizes and colors:

Membrane Description	100 mL Funnels	250 mL Funnels
0.2 µm white, gridded	MIGSWG100	MIGSWG250
0.45 µm white, gridded	MIHAWG100	MIHAWG250
0.45 µm white, plain	MIHVWP100	N/A
0.45 µm black, gridded	MIHABG100	MIHABG250
0.7 µm white, gridded	MIHCWG100	MIHCWG250
0.8 µm white, gridded	MIAAWG100	MIAAWG250
1.2 µm white, gridded	MIRAWG100	MIRAWG250

150 Funnels and 150 Isopore® Polycarbonate Membranes

Membrane Description	100 mL Funnels	250 mL Funnels
0.4 µm; colorless, plain	N/A	MIHTTP250

Additional membranes are available - 0.4 µm; colorless, plain - 150 units - item MIHTTPMNE

150 Funnels and 150 EZ-Pak® Membranes

Each box contains 6 x 25 (100 mL) or 5 x 30 (250 mL) sterilized Microfil® funnels and a band of 150 individually packed, sterilized 47 mm diameter gridded EZ-Pak® membranes, available with the following pore sizes and colors:

Membrane Description	100 mL Funnels	250 mL Funnels
0.2 µm white gridded	MZGSWG101	N/A
0.45 µm white, gridded	MZHAWG101	MZHAWG251
0.45 µm black, gridded	MZHABG101	MZHABG251
0.8 µm white, gridded	MZAAWG101	MZAAWG251
0.8 µm black, gridded	MZAABG101	N/A

Equipment

Description (1/Pk)	Cat. No.
EZ-Fit™ Manifold 1-place for Microfil®	EZFITMIC01
EZ-Fit™ Manifold 3-place for Microfil®	EZFITMIC03
EZ-Fit™ Manifold 6-place for Microfil®	EZFITMIC06
Microfil® Funnel Dispenser, for use with 100 mL funnels	MIACFD101
Microfil® Funnel Dispenser, for use with 250 mL funnels	MIACFD201
EZ-Pak® Dispenser Curve	EZCURVE01
EZ-Stream® Vacuum Pump for Liquid Transfer	EZSTREAM1
Microfil® filtration system pump head for MilliporeSigma vacuum pump	MCLHEAD01

Petri Dishes

47 mm Petri Dishes, packed in sleeves of 25 dishes. Available with or without cellulose pad.

Description (1/Pk) Qty/Pk	100 mL Funnels	Cat. No.
Petri Dish without pad	150	PD2004700
Petri Dish without pad	600	PD2004705
Petri Dish with pad	150	PD20047S0
Petri Dish with pad	600	PD20047S5
10 canisters of 100 absorbent pads	1000	AP10045S0
1 pad dispenser and 2 pad canisters	200 pads & 1 dispenser	AP10045S1
0.45 µm with MCE membrane absorbent pads in canister	600 HAWG674SP	HAWG674SP

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

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

SigmaAldrich.com/Microfil

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