sartorius

Monitoring the quality of drinking water ...

turning science into solutions

... is fast and reliable with Nutrient Pad Sets

According to the new European drinking water directive (Council Directive 98/83/EC), membrane filtration is a suitable method for monitoring the microbiological quality of water intended for human consumption. Membrane filtration excels in the detection accuracy it provides in comparison to the direct method. The specific advantages of membrane filtration is that it enables large sample volumes containing a low number of microbes to be tested and the results to be quantified. Sartorius Nutrient Pad Sets (NPS) optimally complement the membrane detection method. They streamline and standardize microbiological testing procedures because they are easy to use and store.

The standard NPS box contains 100 sterile nutrient pads, each of which is individually inserted in a petri dish and sterilized. Ten each of these petri dishes are sealed in an aluminum bag. This special packaging in bags protects the sensitive formula constituents of the nutrient pads during transport and storage from fluctuations in humidity and temperature. As a result, it guarantees the high quality of our NPS throughout their entire shelf life up to 24 months. This makes the Sartorius Nutrient Pads Sets unique: No other ready-to-use culture media around the globe certifies consistently high quality and reproducible results up to 24 months.

All Nutrient Pad Set types are supplied with the appropriate membrane filters, which are also presterilized and individually packaged. The membrane filters tailored to meet the special requirements of microbial detection are available with 47 mm or 50 mm diameters.

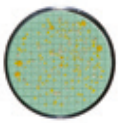
Currently, Sartorius offers more than 30 different Nutrient Pad Set types to meet the diverse objectives of microbiological analysis. Beyond the European drinking water directive, they comply with other international regulations and recommendations: international pharmacopoeias, DIN and ISO standards, the American Standards for Water and Foods, mineral water regulations, brewery guidelines, such as MEBAC or EBC, and recommendations of the food industry, such as LMBG, NCA and ICUMSA, etc.

Some of the advantages you will benefit from using Nutrient Pad Sets include:

- Economy – no time-consuming and labor-intensive preparation
- Easy handling – can be used in laboratories without comprehensive microbiological equipment
- Consistently quality – by-packed lot certificate in order to guarantee reliable results
- Trouble-free storage – at room temperature up to 24 months

Council Directive 98/83/E
on the quality of water intended for human consumption

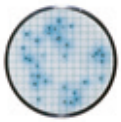
ISO 6222
Water quality:
Enumeration of culturable micro-organisms


Yeast Extract 14090


ECD 14082
(Rapid test)


Caso 14063
(Resuscitation)

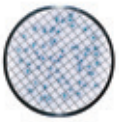
ISO 16266
Detection and enumeration of Pseudomonas aeruginosa by membrane filtration


Cetrimide 14075

ISO 7899-2
Water quality:
Detection and enumeration of intestinal enterococci*


Azid 14051

ISO 9308-1 (new 2014)
Water quality:
Detection and enumeration of Escherichia coli and coliform bacteria


Chromogenic Coliform 14049

* The ISO 7899-2 requires the use of a suitable membrane filter according to ISO 7704 (Water quality: Evaluation of membrane filters used for microbiological analysis). The certificate enclosed with each 0.45 mm membrane filter lot confirms their quality parameters and their compliance with ISO standard 7704.

Ordering Information

Nutrient Pad Sets, individually, sterile packaged in petri dishes, 100 per box, with 100 individually, sterile packaged 47 mm membrane filters

Determination of	NPS Type (Filter Type)*	Order No.**
Total count	Caso (1)	14063--47------N
Total count	R2A (1)	14084--47------N
Total count	Standard TTC (1)	14055--47------N
Total count	Standard TTC I mod. (1)	14085--47------N
Total count	Standard (1)	14064--47------N
Total count	TGE | Tryptone Glucose Extract (1)	14076--47------N
Total count	Yeast Extract (1)	14090--47------N
E. coli	ECD (2)	14082--47------N
Enterobacteria, E. coli	MacConkey (2)	14097--47------N
E.coli and coliforms	Chromogenic Coliforms (2) (according to new ISO 9308-1)	14049--47------N
E. coli and coliforms	CHROMOCULT®*** (7)	14087--47------N
E. coli and coliforms	Endo (9)	14053--47------N
E. coli and coliforms	m FC (2)	14068--47------N
E. coli and coliforms	Teepol | Lauryl Sulphate (2)	14067--47------N
E. coli and coliforms	Tergitol TTC (2)	14056--47------N
Enterococci	Azide | KF Strep (1)	14051--47------N
Salmonellae	Bismuth Sulfite (1)	14057--47------N
Pseudomonas aeruginosa	Cetrimide (2)	14075--47------N
Staphylococci, Staph. aureus	Chapman (2)	14074--47------N
Wild yeasts	Lysine (3)	14061--47------N
Yeasts and molds	Malt Extract (8)	14086--47----CCN
Yeasts and molds	Malt Extract (6)	14086--47------N
Yeasts and molds	Sabouraud (10)	14069--47------N
Yeasts and molds	m Green yeast and mold | Schaufus Pottinger (4)	14070--47------N
Yeasts and molds	m Green yeast and mold | Schaufus Pottinger (5)	14072--47------N
Yeasts and molds	m Green yeast and mold | Schaufus Pottinger (6)	14080--47------N
Yeasts and molds	m Green yeast and mold | Schaufus Pottinger (3)	14083--47------N
Yeasts and molds and bacteria	Wallerstein | WL Nutrient (2)	14089--47------N
Yeasts and molds	Wort (3)	14058--47------N
Thermophilic spore formers and mesophilic bacteria	Glucose Tryptone (2)	14066--47------N
Leuconostoc oenos and other wine spoiling microorgan.	Jus de Tomate | Tomato Juice (1)	14079--47------N
Acid-tolerant microorganisms	Orange Serum | pH 5.5 (1)	14062--47------N
Acid-tolerant microorganisms	Orange Serum | pH 3.2 (6)	14096--47------N
Lactobacilli and Pediococci and other beer spoiling microorganisms	VLB-S7-S (2)	14059--47------N
Lactobacillus species and other lactic acid bacteria	MRS	14077--47------N
Mesophilic slime-forming bacteria esp. Leu. mesenteroides	Weman (1)	14065--47------N

ISO 8199
Water quality:
General guide to enumeration of micro-organisms by culture


Zertifikat

Sartorius Nutrient Pad Sets are used regularly at official inter-laboratory tests for microbiological analysis of drinking water according to the new European drinking water directive. This certificate issued by the "Niedersächsisches Landesgesundheitsamt" (public health agency of Lower Saxony) in Aurich, Germany, states that the sets passed tests in compliance with the standards listed.

*) A Set contains 100 Nutrient Pads and 100 membrane fi lters, both individually, sterile packaged. The membrane filters are selected for optimum growth together with the corresponding nutrient media. The supplied membrane filter type is listed within brackets:

(1) = green with dark green grid, 0.45 µm pore size
(2) = white with green grid, 0.45 µm pore size
(3) = gray (after wetting black) with white grid, 0.65 µm pore size
(4) = white with green grid, 0.65 µm pore size
(5) = white with green grid, 1.2 µm pore size
(6) = gray (after wetting black) with white grid, 0.8 µm pore size
(7) = white with black grid, 0.45 µm pore size
(8) = gray (after wetting black) with white grid, 0.45 µm pore size
(9) = white with green grid, 0.45 µm pore size, High Flow
(10) = gray (after wetting black) with white grid, 0.45 µm pore size, High Flow

**) Diameter of the membrane filter, 47 mm. Order number for nutrient pad set with 50 mm membrane filter as above, but --47------N replaced by --50------N. Most of the NPS types are also available with Microsart® e.motion Membrane Filters: Order number as above, but ---N replaced by -RDN. Other NPS types on request.

***) * Trade mark owner and manufacturer is Merck KGaA

Poster overleaf
Size 70 × 50 cm can be obtained free of charge. Order No. SM-0001-e.

Combisart®
The sterile vented filter station

Performance
Some of the advantages you will benefit from using the Combisart® include:
- Reliable results – sterile venting rules out cross contaminations
- Cost effective – space-saving sterilization by autoclaving only the unscrewed filter stations
- Versatile – easy use for left- or right handed users

The Sartorius Combisart® system enables the user to select the optimal hardware and consumables for his needs in quality assurance. Combisart® features a modular design and field-proven standard.
The system is compliant with ISO 8199 with regards to the sterilization methods of the equipment described in the "General Guide to enumeration of micro-organisms by culture".

Description
At the heart of the Combisart® system is a high-grade stainless steel manifold or individual system designed to accommodate all types of filter holders and funnels. Stainless steel three-way valves (taps) allow the vacuum for each filter holder to be individually controlled and each holder to be sterilely vented. The low height of the manifold ports is particularly advantageous for working on a clean bench.

Ordering Information
Combisart® individual systems and multi-branch bases, made of high-grade stainless steel, without funnels and lids, to accommodate various funnel types

Combisart® individual base with frit, stainless steel, to acc. Biosart® 250	16841
Combisart® 1-branch stainless steel manifold, without frit	16844
Combisart® 3-branch stainless steel manifold, without frits	16842
Combisart® 6-branch stainless steel manifold, without frits	16843
Combisart® base support with frit (50 mm), stainless steel, to acc. Biosart® 250	16840

Biosart® 250 Funnel
The sterile autoclavable filter funnel

Performance
Some of the advantages you will benefit from using the Biosart 250® include:
- Reliable results – Use a new sterile funnel for each test to avoid cross contamination
- Time saving – Just change the funnel rather than spending time sanitizing it
- Simpler handling – No more holding of hot funnels. Additionally, you can see when filtration has been completed – particularly useful when using manifolds in routine testing

Description
The Biosart® 250 Funnel has been specifically designed for microbiological and analytical quality assurance. Biosart® 250 are sterile funnels which allows for fast filtration required in the routine testing of water, food and beverages, pharmaceutical and cosmetic products.

Application
Colony counting is the quantitative determination of microorganisms present in a sample. The quantity can represent either the total bioburden or the detection and quantification of specific microorganisms. The counts are expressed in colony-forming units per 1 ml sample volume (CFU/ml).

A Sartorius gridded membrane is placed on a stainless steel filter support. A Biosart® 250 Funnel is simply fitted on and the sample is filtered. The funnel is made of polypropylene and is sufficiently elastic for optimal sealing with a bayonet-type closure. The funnel can be autoclaved upto 50 times. Graduations are marked at 50, 100, 150, 200 and 250 ml for exact sample volumes. The large inner diameter ensures a high flow rate. The conical form allows a thorough rinsing of the system subsequent to filtration. No liquid is retained in the filter funnel.

Ordering Information

Biosart® 250 Funnel, individually, sterile packaged, pack of 50	16407--25----ACK
Biosart® 250 Funnel, sterile packaged, pack of 50	16407--25----ALK

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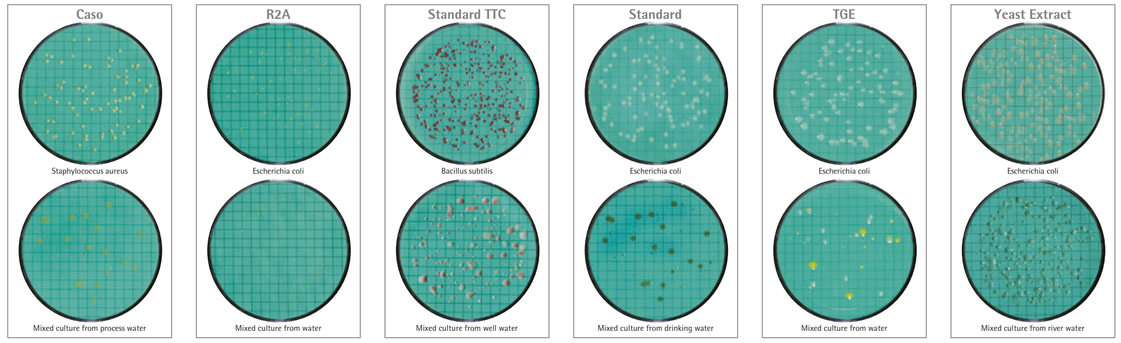
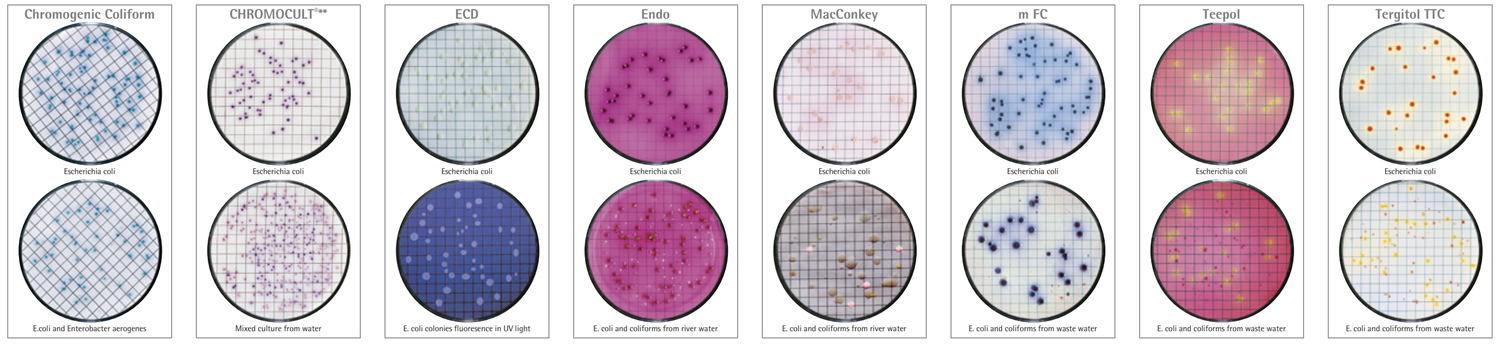
Nutrient Pad Sets

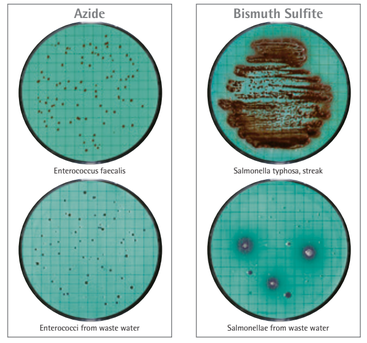
Total colony count



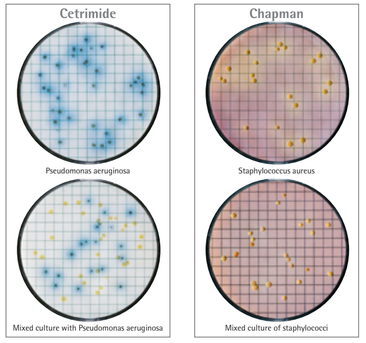
E. coli and coliforms, Enterobacteria



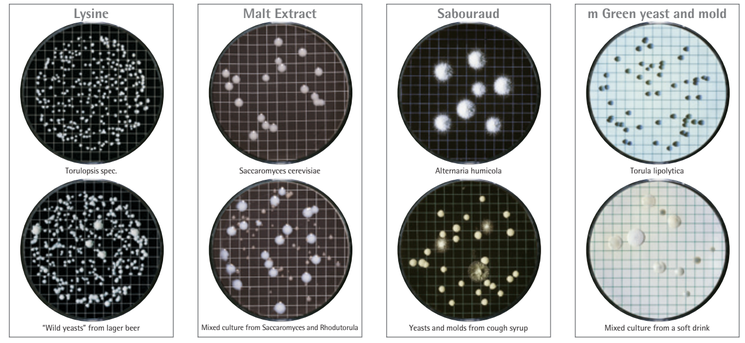
Other faecal bacteria



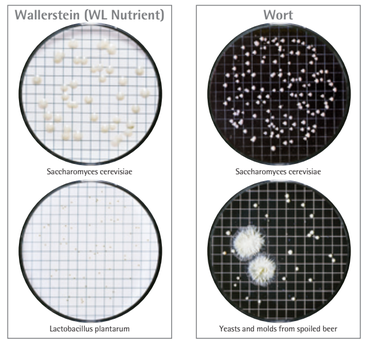
Non-faecal, pathogenic bacteria



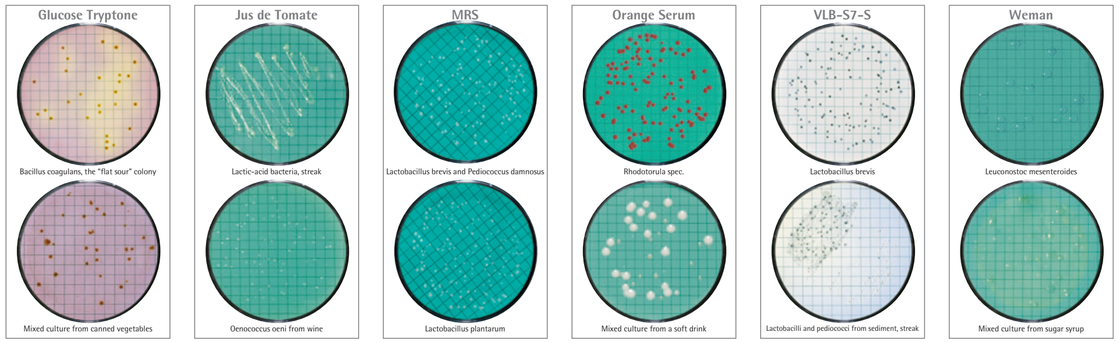
Yeasts and molds



Yeasts and molds



Product-spoiling microorganisms



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Typical Application Examples

Product	Detection and enumeration of...	Nutrient Pad type
Beer	Lactobacilli and Pediococci and other beer spoiling organisms	VLB-S7-S
	Total colony count	Standard, Standard TTC,
	Wild yeasts	Lysine
	Yeasts and molds	Malt Extract*, Wallerstein Nutrient, Wort
Diary products	Lactobacilli	MRS
Foods	Acid-tolerant microorganisms	Orange Serum
	Enterobacteria, E. coli and coliforms	CHROMOCULT®**, ECD, Endo, (MacConkey), m FC, Teepol | Lauryl Sulphate, Tergitol TTC
	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Lactobacilli	MRS
	Pseudomonas aeruginosa	Cetrimide
	Salmonellae	Bismuth Sulfite
	Staphylococci, Staphylococcus aureus	Chapman
	Thermophilic spore formers and mesophilic bacteria	Glucose Tryptone
	Total colony count	Caso, Standard, Standard TTC, TGE | Tryptone Glucose Extract
	Yeasts and molds	Malt Extract, Wort
Food and Beverages	Lactobacilli	MRS
Fruit juice	Enterobacteria, E. coli and coliforms	Endo, (MacConkey) Tergitol TTC*
	Oenococcus and other product spoiling organisms	Jus de Tomate | Tomato Juice, Orange Serum
	Lactobacilli	MRS
	Yeasts and molds	Malt Extract, m Green yeast and mold | Schaufus Pottinger, Wallerstein Nutrient, Wort
Milk	E. coli and coliforms	Endo
	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Salmonellae	Bismuth Sulfite
Pharmaceuticals, WFI, raw materials, and cosmetics	Enterobacteria, E. coli	MacConkey
	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Pseudomonas aeruginosa	Cetrimide (cosmetics only)
	Salmonellae	Bismuth Sulfite
	Staphylococci, Staphylococcus aureus	Chapman
	Total colony count	Caso, R2A
	Yeasts and molds, Candida albicans	Sabouraud
Soft drinks, concentrates	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum, VLB-S-7-S
	Enterobacteria, E. coli and coliforms	Endo, MacConkey
	Lactobacilli	MRS
	Mesophilic slime-forming bacteria, Leuconostoc	Weman
	Total colony count	Standard*, Standard TTC*, TGE | Tryptone Glucose Extract
	Yeasts and molds	Malt Extract, m Green yeast and mold | Schaufus Pottinger, Wallerstein Nutrient, Wort
Sugar, sugar products	E. coli and coliforms	Endo
	Mesophilic slime-forming bacteria, Leuconostoc	Weman
	Thermophilic spore formers and mesophilic bacteria	Glucose Tryptone
	Yeasts and molds	Malt Extract*, Schaufus Pottinger | m Green yeast and mold, Wort*
Water (general quality), mineral water, natural water, waste water	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum
	Enterobacteria, E. coli and coliforms	Chromogenic Coliform (according to new DIN EN ISO 9308-1), CHROMOCULT®**, ECD, Endo, (MacConkey), m FC, Teepol | Lauryl Sulphate, Tergitol TTC
	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Pseudomonas aeruginosa	Cetrimide
	Salmonellae	Bismuth Sulfite
	Staphylococci, Staphylococcus aureus	Chapman
	Total colony count	Caso, R2A, Standard, Standard TTC, TGE | Tryptone Glucose Extract, Yeast Extract
	Yeasts and molds, Candida albicans	Sabouraud
Wine	Acetobacter	Orange Serum, Wort (both wetted with 5-8% ethanol)
	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum
	Lactobacilli	MRS
	Oenococcus and other wine spoiling microorgan.	Jus de Tomate | Tomato Juice
	Yeasts and molds	Malt Extract, m Green yeast and mold | Schaufus Pottinger, Wallerstein Nutrient, Wort

* These NPS types are suitable for the determination of the mentioned microorganisms, although the media are not explicit declared in references. The description of the typical results or any pictures show typical appearance of the mentioned microorganisms. In particular cases, color and shape of the colonies could vary from the expected habitus. Further tests may be necessary to validate the result. Sartorius shall not be liable for consequential and | or incidental damage sustained by any customer from the use of its products. Nutrient Pad Sets (NPS) are subject to continuous product improvement as part of our product development program to align our products with changing application requirements. For current specifications and lot release criteria please visit our homepage under: www.sartorius.com/NPSSearch.

** Trade mark owner and manufacturer is Merck KGaA

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