

Nutrient Pad Sets. Microbiological Testing of Foods, Beverages and Pharmaceuticals

Introduction

The consumer's steadily growing requirements for the quality and the longer shelf life of foods and beverages must be met by the manufacturer.

He cannot limit quality assurance to inspection of the final product alone, such as a bottled beverage or a prepared food product. Instead, he continuously must inspect incoming raw materials and perform in-process quality control tests throughout production if he wants to avoid later losses and customer complaints. Microbiological and aseptic testing play a significant role in such quality assurance.

In the soft drink industry the microbiological and hygienic quality including the biological stability of the products are important criteria for their assessment. The reason: just a few microbes are often all it takes to spoil large quantities of a beverage. Although the explosive technological development has reduced the risk of contamination by spoilage microbes, the issue of shelf life has taken on new dimensions as a result of the enormous production output now possible. Quality control of bottling and filling, in terms of chemical and, above all, biological stability, must be adapted to this development by state-of-the-art test methods.

The requirements for a practical microbiological test method are that it permit quantitative and reproducible detection of trace contamination and that it can be performed efficiently and economically under routine conditions. These requirements are fulfilled optimally by the membrane filter method.

The principle of this method is based on the concentration of microorganisms from relatively large samples on the surface of the membrane filter, and on culturing these microbes on a nutrient pad or an agar culture medium.

Benefits of CHMLAB-NPS

Economical

Eliminates time-consuming and labor-intensive preparation of culture media

Simple to use

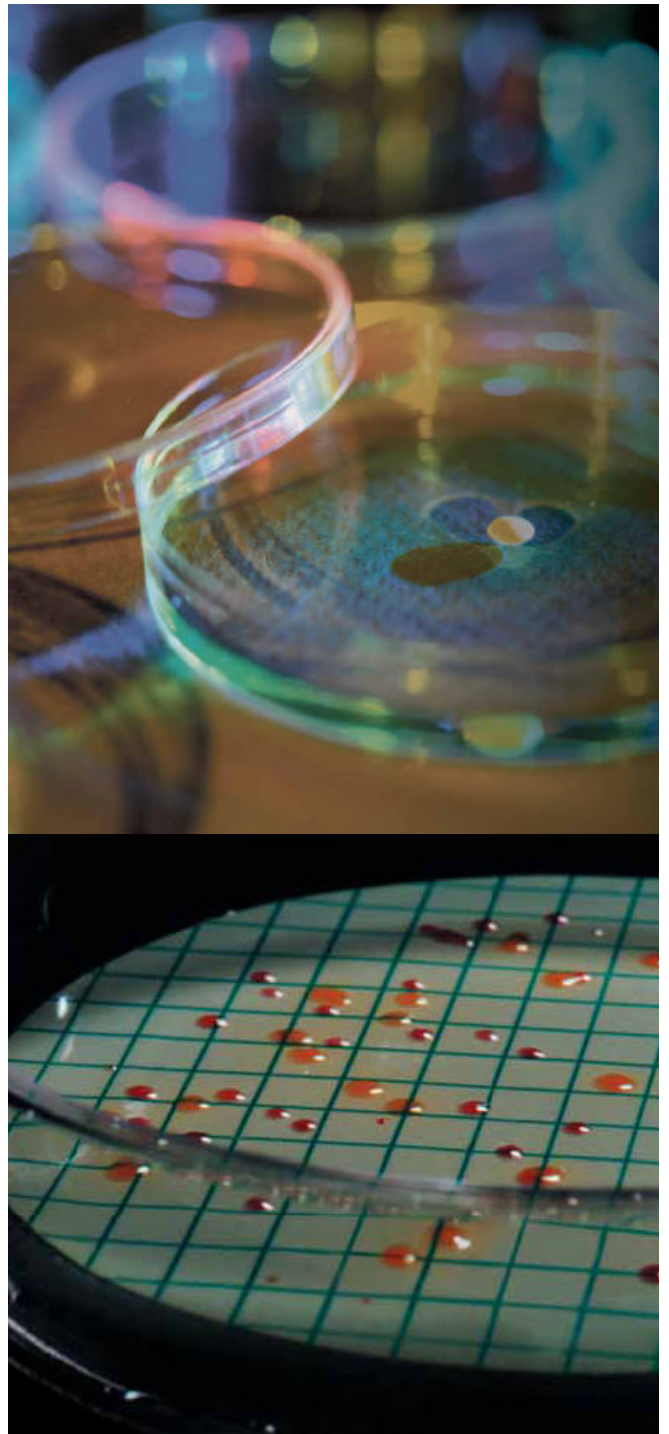
Nutrient Pad Sets can also be used in laboratories which do not have extensive microbiological equipment..

Consistent quality

During manufacture, each type of Nutrient Pad Set is compared with the corresponding agar medium with respect to their promoting properties. This QA procedure ensures consistent quality and reproducible results.

Trouble-free storage

Nutrient Pad Sets have a shelf life of 18 to at least 24 months at room temperature.



Nutrient Pad Sets.

CHMLAB Nutrient Pad Sets have been used successfully in the membrane filter method. Practical and easy to handle, they reduce labor and simplify many microbiological testing procedures. Nutrient pads are sterile, dehydrated culture media. Once they are moistened with 3.0–3.5 ml of sterile and demineralized (or distilled) water they are ready to use immediately. The level of moisture is optimal when an excess ring of water surrounding the pad is visible.

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. Nutrient pad sets (NPS) are continuously enhanced as part of our development program to adapt our products to changing application requirements. Besides the new NPS types, we have also updated our packaging design. 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.



Order Numbers for nutrient pad sets in petri dishes

NPS, individually, sterile packaged in petri dishes, 100/ box, with 100 individually, sterile packaged 47 mm membrane filters

Determination of NPS	Type (Filter Type)*	Order No.**
Total count	Caso (1)	NPS63047H-S
Total count	R2A (1)	NPS84047H-S
Total count	Standard TTC (1)	NPS55047H-S
Total count	Standard TTC I mo d. (1)***	NPS85047H-S
Total count	Standard (1)	NPS64047H-S
Total count	TGE Tryptone Glucose Extract (1)	NPS76047H-S
Total count	Yeast Extract (1)	NPS90047H-S
E. coli and coliforms	Chromocult (7)	NPS87047H-S
E. coli	ECD (2)	NPS82047H-S
E. coli and coliforms	Endo (2)	NPS53047H-S
Enterobacteria, E. coli	MacConkey (2)	NPS97047H-S
E. coli and coliforms	m FC (2)	NPS68047H-S
E. coli and coliforms	Teepol Lauryl Sulphate (2)	NPS67047H-S
E. coli and coliforms	Tergitol TTC (2)	NPS56047H-S
Enterococci	Azide KF Strep (1)	NPS51047H-S
Salmonellae	Bismuth Sulfite (1)	NPS57047H-S
Pseudomonas aeruginosa	Cetrimide (2)	NPS75047H-S
Staphylococci, Staph. aureus	Chapman (2)	NPS74047H-S
Wild yeasts	Lysine (3)	NPS61047H-S
Yeasts and molds	Malt Extract (8)***	NPS86047H-S
Yeasts and molds	Malt Extract (6)***	NPS86047H-S
Yeasts and molds	Sabouraud (3)	NPS69047H-S
Yeasts and molds	Schaufus Pottinger m Green yeast and mold (4)	NPS70047H-S
Yeasts and molds	Schaufus Pottinger m Green yeast and mold (5)	NPS72047H-S
Yeasts and molds	Schaufus Pottinger m Green yeast and mold (6)	NPS80047H-S
Yeasts and molds	Schaufus Pottinger m Green yeast and mold (3)	NPS83047H-S
Yeasts and molds and bacteria	Wallerstein WL Nutrient (2)	NPS89047H-S
Yeasts and molds	Wort (3)	NPS58047H-S
Thermophilic spore formers and mesophilic bacteria	Glucose Tryptone (2)	NPS66047H-S
Leuconostoc oenos and other wine spoiling microorgan.	Jus de Tomate Tomato Juice (1)	NPS79047H-S
Acid-tolerant microorganisms	Orange Serum pH 5.5 (1)	NPS62047H-S
Acid-tolerant microorganisms	Orange Serum pH 3.2 (1)	NPS96047H-S
Lactobacilli and Pediococci and other beer spoiling microorganisms	VLB-S7-S (2)	NPS59047H-S
Mesophilic slime-forming bacteria esp. Leu. mesenteroides	Weman (1)	NPS65047H-S

*) 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

**) Diameter of the membrane filter, 47 mm. Order number for nutrient pad set with 50 mm membrane filter as above, but 47H replaced by 50H.

***) This NPS type is only available with 47 mm membranes.