

Envirocheck® Contact TVC (Total Viable Counts)

Ordering number: 1.02149.0001

Our Envirocheck® dip slides, for semi-quantitative detection of microorganisms on surfaces and in liquids, are flexible paddles that are coated with different nutrient media. After sampling and incubation, the results of side A and side B allow any of five parameters to be determined, depending on the slide used. Envirocheck™ dip slides are available for a range of tests including E. coli, coliforms, yeast and molds, Enterobacteriaceae, Total Viable Count and disinfection control.

Content: 10 slides/pack

Typical Composition

Slide A

Coated with Nutrient Agar containing 0.05% Triphenyl Tetrazolium Chloride (TTC). The growth of bacteria is indicated by red colonies due to the formation of red formazan dye when TTC is reduced.

Slide B

Coated with Nutrient Agar, a medium that is recommended by the American Public Health Association (APHA) for testing foodstuffs.

Application and Interpretation

Envirocheck contact slides can be used for both surface and liquid testing.

Unscrew the cap and remove Envirocheck slide from the tube taking care not to touch the agar surfaces. Check for any dehydration or contamination before use.

Surface testing

With two fingers hold the terminal end of the paddle against the surface to be tested. Press down on the spike to bend the paddle still holding the slide by the cap.

Press one medium against the surface to be tested. Take care not to smear the agar over the test area.

Repeat the procedure with the other side of the paddle on an area adjacent to the initial test site.

Put the slide back into the tube and close tightly.

Liquid testing

Dip the Envirocheck slide for about 5 – 10 seconds into the test fluid. Both agar surfaces should become totally covered. In case of insufficient liquid, pour over both surfaces of the slide. Tip the slide on a clean absorbent paper to drain any excess of fluid. Put the slide back into the tube and close tightly.

Incubation

Incubate in upright position at 35-37°C for 24-48h hours. Check for growth after 24 and 48 hours.

Interpretation of the results

Count the number of colonies on both sides of the paddle – results should not differ by a factor greater than 2, where the colonies on side A will appear mainly in red. In the presence of TTC a few microorganisms may grow less profusely. Always go with the higher counts in case they are not identical on both sides. This represents the microbial load for the test.

Surface testing

The colony count on each agar side can be calculated into CFU per cm² as follows:

$$\text{CFU (actual count)} / 9.4 \text{ cm}^2 = \text{CFU/ cm}^2$$

Information on the recovery rates of dip slides for surface monitoring can be found at Salo et al

Liquid testing

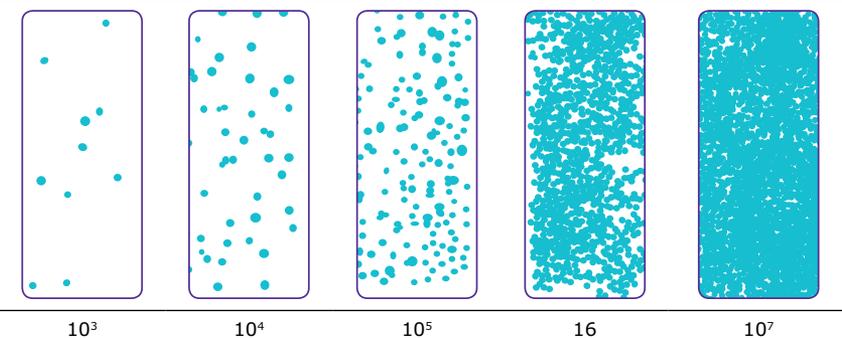
The density on each agar side can be compared to the model density chart.

Typical Cultural Response

Organism	Nutrient agar with TTC	Nutrient agar
<i>E. coli</i> , ATCC 8739	Good growth	Good growth
<i>Staph. aureus</i> , ATCC 6538	Fair/ good growth	Good growth
<i>C. albicans</i> , ATCC 10231	No/poor growth	Good growth
<i>Bac. subtilis</i> , ATCC 6633	Good growth	Good growth
<i>Ps. aeruginosa</i> , ATCC 9027	Good growth	Good growth
<i>Asp. niger</i> , ATCC 16404	Good growth	Good growth

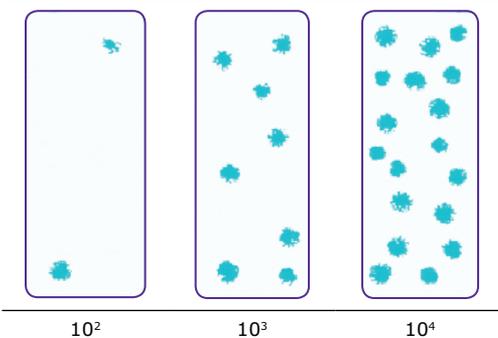
Density Charts

Bacteria and Yeasts



CFU/ml, for liquids

Moulds



Storage

Please store the product protected from light at 3 to 15°C and avoid freezing. Frozen agar shows a dimpled or fuzzy surface and cannot be used anymore.

Condensation can be prevented by avoiding quick temperature shifts and mechanical stress. Upon storage the dip slides should not be placed near heat sources such as refrigerators with heat-emitting condensers.

Disposal

Please mind the respective regulations for the disposal of used culture medium (e.g. autoclave for 20 min at 121 °C, disinfect, incinerate etc.)

References

Salo S, Laine A, Alanko T, Sjöberg A-M, Wirtanen G. Validation of the Microbiological Methods Hygicult Dipslide, Contact Plate, and Swabbing in Surface Hygiene Control: A Nordic Collaborative Study. *Journal of AOAC International* 2000; 83(6): 1357-1365.

Salo S, Alanko T, Sjöberg A-M, Wirtanen G. Validation of the Hygicult® E Dipslides Method in Surface Hygiene Control: A Nordic Collaborative Study. *Journal of AOAC International* 2002; 85(2): 388-394

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