

# TECHNICAL DATA SHEET

## CONTACT PLATE AGAR

### ENUMERATION OF SURFACE BACTERIA

#### 1 INTENDED USE

Contact Plate Agar is used to enumerate microorganisms by the direct application of the agar to the surfaces to test. The use of this simplified technique is a good verification of the state of cleanliness of equipment after cleaning and disinfection. It can also be used to determine the bacterial load on the hands and fingers of personnel. The agar can also be used for air control.

#### 2 PRINCIPLES

The combination of Tryptone and soy peptone leads to an optimal growth due to the synergy between the proteins supplied by casein and the carbohydrates supplied by soybeans.

Sodium chloride maintains the osmotic balance.

The medium is derived from Tryptone-Soy Agar and contains 4 neutralizers that inactivate most disinfectants that may be present in trace quantities after cleaning. This combination facilitates the development of residual viable microorganisms.

The lecithin-polysorbate-histidine-thiosulfate combination neutralizes most disinfectants.

The polysorbate neutralizes hexachlorophene and phenols.

The lecithin neutralizes chlorhexidin and phenol.

Lecithin and polysorbate combination inhibits quaternary ammonium salts.

Sodium thiosulfate neutralizes halogen derivatives.

#### 3 TYPICAL COMPOSITION

The composition can be adjusted in order to obtain optimal performance.

For 1 liter of media :

|                                               |        |
|-----------------------------------------------|--------|
| - Tryptone .....                              | 15,0 g |
| - Papaic digest of soybean meal .....         | 5,0 g  |
| - Sodium chloride .....                       | 5,0 g  |
| - Lecithin .....                              | 0,7 g  |
| - Polysorbate (Tween 80) .....                | 5,0 g  |
| - Sodium thiosulfate, 5H <sub>2</sub> O ..... | 0,5 g  |
| - L-histidine .....                           | 1,0 g  |
| - Bacteriological agar .....                  | 20,0 g |

pH of ready-to-use media at 25 °C : 7,3 ± 0,2.

#### 4 PREPARATION

- Suspend 52,2 g of dehydrated media (BK130) in 1 liter of distilled or demineralized water.
- Slowly bring to boiling, stirring with constant agitation until complete dissolution.
- Dispense in tubes or flasks at roughly 18 mL per tube.
- Sterilize in an autoclave at 121°C for 15 minutes.
- Cool and maintain at 44-47 °C.
- Pour the agar into sterile, 50 to 70 mm diameter cross-ruled Petri dishes.
- Let solidify on a cold surface, under laminar flow and put the cover back on the plates.

✓ **Reconstitution :**  
52,2 g/L

✓ **Sterilization :**  
15 min at 121 °C

**NOTE**

The quantity of the poured media must allow the user to obtain a well formed meniscus. For other diameters of plates, adapt the volume used in this context.

**5 INSTRUCTIONS FOR USE**

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- Apply the agar directly to the surface to test, without excessive pressure and without moving the plate in order to preserve the integrity of the meniscus.
- Maintain a contact time of at least 10 seconds and a pressure equal to that exercised by a weight of 500g.
- Close the contact plates immediately after inoculation.
- Incubate according to the analytical protocol being followed, maintaining the plates with covers on top.

**6 RESULTS**

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Proceed with the colony count. The cross-ruled plates helps facilitate this enumeration. Divide the number of characteristic colonies per area of the plate (in general 25 cm<sup>2</sup>) and from this calculate the number of colony forming units (cfu) per square centimeter of surface. .

**7 QUALITY CONTROL**

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**Dehydrated media** : cream-white powder, homogeneous and slightly clumpy.

**Prepared media** : amber agar.

Typical culture response after incubation at 32,5 °C :

| Microorganisms                               |            | Growth<br>(Productivity Ratio : P <sub>R</sub> ) |
|----------------------------------------------|------------|--------------------------------------------------|
| <sup>1</sup> <i>Escherichia coli</i>         | WDCM 00012 | P <sub>R</sub> ≥ 70 %                            |
| <sup>1</sup> <i>Staphylococcus aureus</i>    | WDCM 00033 | P <sub>R</sub> ≥ 70 %                            |
| <sup>1</sup> <i>Pseudomonas aeruginosa</i>   | WDCM 00026 | P <sub>R</sub> ≥ 70 %                            |
| <sup>1</sup> <i>Candida albicans</i>         | WDCM 00054 | P <sub>R</sub> ≥ 70 %                            |
| <sup>2</sup> <i>Aspergillus brasiliensis</i> | WDCM 00053 | P <sub>R</sub> ≥ 70 %                            |

(<sup>1</sup>) 48 hour incubation

(<sup>2</sup>) 72 hour incubation

**8 STORAGE / SHELF LIFE**

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**Dehydrated media** : 2-20 °C.

The expiration date is indicated on the label.

**Prepared media in tubes (\*)** : 180 days at 2-25 °C.

**Prepared media in plates (\*)** : 30 days at 2-8 °C.

(\*) Benchmark value determined under standard preparation conditions, following manufacturer's instructions.

**9 PACKAGING**

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**Dehydrated media** :

500 g bottle ..... BK130HA

**10 BIBLIOGRAPHY**

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Rozier, J., et Pantaléon, J. 1969. Méthode simple et rapide d'appréciation des flores microbiennes de surface. Bull. Acad. Vet., XII: 119-125.

Desbordes, J. 1977. Biodégradation microbienne des antiseptiques et conservateurs. Revue de l'Institut Pasteur de Lyon, 10 (4): 291-311.

Drouin, P., et Toux J.Y. 1985. Méthode bactériologique pour apprécier la désinfection des poulaillers. Bull. d'Inf. Station Exp. d'Aviculture de Ploufragan, 25: 176-178.



Singer, S. 1987. The use of Preservative Neutralizers in Diluents and Plating Media. *Cosmetics and Toiletries*, 102: 55-60.

ISO 18593. Juin 2004. Microbiologie des aliments — Méthodes horizontales pour les techniques de prélèvement sur des surfaces, au moyen de boîtes de contact et d'écouvillons.

## 11 ADDITIONAL INFORMATION

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The information provided on the labels take precedence over the formulations or instructions described in this document and are susceptible to modification at any time, without warning.

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