

# TECHNICAL DATA SHEET

## MALT EXTRACT AGAR

### ENUMERATION OF YEASTS AND MOLDS

#### 1 INTENDED USE

Malt Agar is used for the enumeration of yeasts and molds. It can also be used for the isolation and maintenance of strains.

The typical composition corresponds to that defined in the chemical disinfectants and antiseptics standards (NF EN 1657 ; NF EN 13624 ; NF EN 1650+A1)

#### 2 HISTORY

In 1919, Reddish, followed by Fullmer and Grimes, used malt extract to promote the development of yeasts in a synthetic medium. In 1926, Thom and Church used the Reddish medium successfully for the study of *Aspergillus* species.

#### 3 PRINCIPLES

Malt extract is rich in carbohydrates. In an acid medium, it supplies all the nutritive elements required for the metabolism of yeasts and molds.

In addition, the acidity of the medium inhibits most contaminating bacteria.

#### 4 TYPICAL COMPOSITION

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

For 1 liter of media :

- Malt extract..... 30,0 g
- Bacteriological agar..... 15,0 g

pH of the ready-to-use media at 25 °C : 5.6 ± 0.2.

#### 5 PREPARATION

- Dissolve 45,0 g of dehydrated media (BK045) in 1 liter of distilled or demineralized water .
- Slowly bring to boiling, stirring with constant agitation until complete dissolution.
- Dispense into tubes or vials.
- Sterilize in an autoclave at 121 °C for 15 minutes.
- Cool and maintain the media in a molten state at 44-47 °C.

✓ **Reconstitution :**  
45,0 g/L

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

#### NOTE :

In order to obtain a more selective use, the pH can be adjusted to 4.5 or 3.5 with sterile lactic acid solution at 10L%, for example. Never heat the medium after adding acid in order to avoid diminishing the gelling properties of the agar.

#### 6 INSTRUCTIONS FOR USE

- Inoculate 1 mL of the suspension and its serial dilutions to sterile, empty Petri plates.
- Pour roughly 15 mL of molten media into each plate.
- Mix well by swirling.
- Let solidify on a cool, flat surface.
- Incubate at 25 °C up to 3 days .

✓ **Inoculation :**  
1 mL in pour plates

✓ **Incubation :**  
3 days at 25 °C

**NOTE :** Period and temperature of incubation may vary according to followed protocol.

## 7 RESULTS

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Count yeast and molds separately.

## 8 QUALITY CONTROL

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**Dehydrated media** : light beige powder, free-flowing and homogeneous.

**Prepared media** : amber agar.

Typical culture response at 25 °C :

Microorganisms		Growth (Productivity Ratio : $P_R$ )
<i>Saccharomyces cerevisiae</i>	WDCM 00058	$P_R \geq 70 \%$
<i>Candida albicans</i>	WDCM 00054	$P_R \geq 70 \%$
<i>Aspergillus brasiliensis</i>	WDCM 00053	$P_R \geq 70 \%$

## 9 STORAGE / SHELF LIFE

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**Dehydrated media** : 2-30 °C.

The expiration date is indicated on the label.

**Prepared media in tubes or vials (\*)** : 180 days at 2-8 °C.

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

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

## 10 PACKAGING

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**Dehydrated media** :

500 g bottle ..... BK045HA

## 11 BIBLIOGRAPHY

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Thom, C. and Church, M.B.. 1926. The Aspergilli.

NF EN 1657. Mai 2016. Antiseptiques et désinfectants chimiques - Essai quantitatif de suspension pour l'évaluation de l'activité fongicide ou levuricide des antiseptiques et des désinfectants chimiques utilisés dans le domaine vétérinaire - Méthode d'essai et prescriptions (phase 2, étape 1)

NF EN 13624. Novembre 2013. Désinfectants chimiques et antiseptiques - Essai quantitatif de suspension pour l'évaluation de l'activité fongicide ou levuricide en médecine - Méthode d'essai et prescriptions (phase 2, étape 1)

NF EN 1650+A1 Juillet 2013. Antiseptiques et désinfectants chimiques - Essai quantitatif de suspension pour l'évaluation de l'activité fongicide ou levuricide des antiseptiques et des désinfectants chimiques utilisés dans le domaine de l'agro-alimentaire, dans l'industrie, dans les domaines domestiques et en collectivité - Méthode d'essai et prescriptions (phase 2, étape 1).

## 12 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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