

## PRODUCT INFORMATION AND QUALITY CONTROL SHEET

# MALT EXTRACT AGAR WITH 0.01% CHLORAMPHENICOL

### I. INTENDED USE

Malt Extract Agar is used for the isolation, cultivation and enumeration of yeasts and molds. The media is rendered selective for fungi by the addition of Chloramphenicol.

### II. SUMMARY AND EXPLANATION

Malt media for yeasts and molds has been used for many years<sup>1</sup>. In 1919, Reddish<sup>2</sup> prepared a satisfactory substitute for beer wort from malt extract. Fulmer and Grimes<sup>3</sup> employed a malt agar for their studies of the growth of yeasts on synthetic media. Reddish's medium was used by Thom and Church<sup>4</sup> in their studies of the aspergilli. The incorporation of Chloramphenicol is a modification designed to increase bacterial inhibition.

### III. PRINCIPLES OF THE PROCEDURE

The antimicrobial agent Chloramphenicol inhibits the growth of bacteria, and the nutrient content of the media allows colonies of yeasts and molds to flourish.

### IV. TYPICAL FORMULA AND APPEARANCE

Appearance = light amber, slightly opalescent  
(Approximate formula\* per liter of processed water)

Malt Extract powdered	20.0 g
Casitone	1.0
Glucose	20.0
Agar	20.0
Chloramphenicol	0.1

\*adjusted and/or supplemented to meet performance criteria.  
Final pH: 4.7± 0.2 @ 25°C

### V. PRECAUTIONS

This product is for IN VITRO diagnostic use only. Culture specimens may contain microorganisms, which can be potentially infectious to the user. Strict adherence to aseptic techniques and established precautions against microbiological hazards should be followed throughout the procedure. Carefully dispose of all items which contact specimens.

### VI. STORAGE/SHELF LIFE

Plated media should be stored at 2-8°C (36-46°F), media side up, in the unopened or resealed package protected from light. DO NOT FREEZE OR EXPOSE TO HIGH TEMPERATURES. Allow unopened plates to warm to room temperature prior to inoculation. Prior to and during inoculation procedures, plates should be handled in a manner that minimizes product exposure to the environment. Product that has exceeded the assigned expiration date noted on the label should not be used. Do not use plates that exhibit evidence of drying, cracking, discoloration, microbial contamination or any other signs of deterioration. The presence of excessive condensate may indicate plates that have been damaged by exposure to temperature extremes.

### VII. SPECIMEN COLLECTION

The quality of culture results depends primarily on the adequacy and condition of the specimen submitted for examination. Proper specimen collection techniques must be followed to ensure the most accurate culture results. Consult appropriate references for information about the processing and inoculation of specimens for fungal culture.<sup>5,6,7</sup> Sterile swabs and collection containers should be used. Plates should be inoculated promptly after specimen collection.

### VIII. MATERIALS PROVIDED

Malt Extract Agar w/0.01% Chloramphenicol Plates (10/pkg)

### IX. MATERIALS REQUIRED BUT NOT PROVIDED

Ancillary culture media, reagents and laboratory equipment as

required.

### X. PROCEDURE

Inoculate the specimen as soon as possible after it is received in the laboratory. Streak the specimen with a sterile inoculating loop to obtain isolated colonies. Reference texts should be consulted for detailed information on processing and inoculating specimens for fungal culture.<sup>5,6,7</sup>

Incubate the inoculated plates at 25-30°C, agar side up, in an atmosphere containing increased humidity for up to one week. Examine cultures at least every other day for fungal growth.

### XI. EXPECTED RESULTS

NCCLS CONTROL ORGANISMS (ATCC STRAINS)

<i>Candida albicans</i> (ATCC 10231)	Growth
<i>Trichophyton mentagrophytes</i> (ATCC 9533)	Growth
<i>Aspergillus niger</i> (16404)	Growth
<i>Escherichia coli</i> (25922)	Inhibition (partial to complete)

### XII. LABORATORY RESULTS

Identification of fungal organisms may be made on the basis of typical gross colony morphology, microscopic characteristics, and physiologic and pathologic characteristics. Additional test procedures should be used to confirm findings.

### XIII. LIMITATIONS

The ability to detect yeasts, molds and fungi by culture techniques can be affected by the following factors: improper specimen collection, storage and inoculation, improper culture incubation temperatures and atmospheres, improper length of culture incubation, and improper storage and handling of culture media.

### XIV. REFERENCES

1. Difco Manual. 9<sup>th</sup> Ed., 1953, pp. 65-67.
2. Abs. Bact., 3:6, 1919.
3. J. Bact., 8: 586, 1923.
4. Thom and Church: The Aspergilli, 1926.
5. Difco Manual. 1984. Difco Laboratories, Inc. Detroit, MI.
6. Ajello, L., L.K. Georg, W. Kaplan and L. Kaufman. 1963. CDC Laboratory Manual for Medical Mycology. PHS Publication No. 994, U.S. Government Printing Office, Washington, D.C.
7. McGinnis, M.R. 1980. Laboratory Handbook of Medical Mycology. Academic Press Inc., N.Y., N.Y.

## USER QUALITY ASSURANCE/ QUALITY CONTROL PROCEDURES AND INFORMATION

HealthLink recommends that the following quality assurance and quality control procedures be performed on each batch of product.

### I. QUALITY ASSURANCE

The following quality assurance procedures must be performed to assure the product will perform according to its intended use within the assigned expiry date:

1. Daily, document that product storage refrigerator maintains temperature within 2-8°C.
2. Daily, document that laboratory incubator maintains temperature within the recommended range: 22-35°C.

## **II. QUALITY CONTROL**

The following incoming inspection procedures must be performed for each batch (batch = same lot, same shipment) of culture media received in the laboratory:

1. Inspect plates according to instructions contained in the Section VI "STORAGE/SHELF LIFE"

Note: Notify Technical Service immediately if media does not meet the inspection criteria.

## **TECHNICAL SERVICE**

HealthLink provides a toll free technical service line (1-800-638-2625) to assist with product usage. To have technical questions answered; please call between the hours of 9:00 am to 5:00 pm EST.

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**1-800-638-2625**

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