

PRODUCT INFORMATION AND QUALITY CONTROL SHEET

DG18 AGAR

I. INTENDED USE

A selective agar with low water activity for the enumeration and isolation of xerophilic molds in semi-dried foods as well as a general purpose medium for counting yeast and molds in foods.

II. SUMMARY AND EXPLANATION

Hocking and Pitt¹ formulated DG18 agar for the enumeration of xerophilic molds in dried and semi-dried foods, such as dried fruits, meat and fish products, spices, confectionary, cereals and nuts. Beckers et. al.² demonstrated the use of DG18 agar as a general purpose medium for counting yeasts and molds in foods.

III. PRINCIPLES OF THE PROCEDURE

Casitone provides nitrogen, vitamins and minerals. Glucose is a carbohydrate source. Phosphate is a buffering agent. Magnesium sulfate is a source of divalent cations and sulfate. The antifungal agent, Dichloran, is added to the medium to reduce colony diameters of spreading fungi. The pH of the medium is reduced from 7.2 to 5.6 for improved inhibition of the spreading fungi³. By reducing the water activity from 0.99 to 0.95 with 18% (w/w) glycerol Chloramphenicol is included in the medium to inhibit the growth of bacteria present in environmental and food samples. Inhibition of growth of bacteria and restriction of spreading of more rapidly growing molds aids in the isolation of slow-growing fungi by preventing their overgrowth by more rapidly growing species.

IV. TYPICAL FORMULA AND APPEARANCE

Appearance = white, opaque

(Approximate formula* per liter of processed water)

Cellulose	20.0 g
Sodium Nitrate	2.0
Potassium Phosphate Dibasic	1.0
Magnesium Sulfate (Anhydrous)	0.5
Potassium Chloride	0.25
Agar	15.0
Chloramphenicol	0.1

*adjusted and/or supplemented to meet performance criteria.

Final pH: 7.0 ± 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. Sterile swabs and collection containers should be used. Plates should be inoculated promptly after specimen collection.

VIII. MATERIALS PROVIDED

Modified Cellulose 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. Reference texts should be consulted for detailed information on processing and inoculating specimens for fungal culture.

Incubate the inoculated plates at 22-35°C, agar side up for up to one week. Examine cultures at least every other day for fungal growth.

XI. EXPECTED RESULTS

NCCLS CONTROL ORGANISMS (ATCC STRAINS)

<i>Chaetomium globosum</i> (ATCC 6205)	Growth, brown to olive color
<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. Smith & Onions: The Preservation and Maintenance of Living Fungi, 2nd Ed., 1994
2. Billups, R.A., Tilton, K.S. and Warden, P.S., 1999. Identification of *Stachybotrys chartarum* Utilizing Various Media and Two Temperature Settings. Analytical Services, Inc.
3. Billups, R.A. 1999. Enhanced Recovery of *Stachybotrys chartarum* From Environmental Samples. Analytical Services, Inc.

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:

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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