# PRODUCT SPECIFICATION SHEET

## Sabouraud Dextrose Agar (DM232)

**Intended Use**
Sabouraud Dextrose Agar (DM232) is used for the cultivation of *yeast*, *mould* and *aciduric* microorganisms.

**Product Summary and Explanation**
Sabouraud Dextrose Agar is a modified medium by Carliers, for the cultivation of fungi, particularly dermatophytes, based on the original formulation of Dextrose Agar described by Sabouraud.[1, 2] The high dextrose concentration and low pH of 5.6 of this medium is favorable for the growth of fungi especially dermatophytes, and slightly inhibitory to contaminating bacteria in clinical specimen.[3, 4] Sabouraud Dextrose Agar is used for determining the microbial content of cosmetics,[5] in the mycological evaluation of food.[6, 7] This medium can also be used, clinically to aid in the diagnosis of yeast and fungal infections.[8, 9]
General Chapters <61> and <62> of the *USP* describe test methods for using Sabouraud Dextrose Agar when performing the microbial enumeration tests and tests for isolating *Candida albicans* from non-sterile pharmaceutical products. [10]
The medium is rendered more selective by the addition of, a modification designed to increase bacterial inhibition.

**Principles of the Procedure**
Mycological peptone provides nitrogenous compounds. Dextrose provides an energy source for the growth of microorganisms. High dextrose concentration and low pH favours fungal growth and inhibits contaminating bacteria from test samples. Chloramphenicol is inhibitory to a wide range of gram-negative and gram-positive bacteria, and Cycloheximide is an antifungal agent that is primarily active against saprophytic fungi and does not inhibit yeasts or dermatophytes. [10]

**Formula / Liter**

| Ingredients | Gms / Liter |
|---|---|
| Dextrose | 40.00 |
| Mycological, peptone | 10.00 |
| Agar | 15.00 |
| Final pH: 5.6 ± 0.2 at 25°C | |
| Formula may be adjusted and/or supplemented as required to meet performance specifications | |

**Precautions**
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

**Directions**
1. Suspend 65 grams of the medium in one liter of distilled water.
2. Heat if necessary, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Mix well and pour into sterile petri plates.

**Quality Control Specifications**

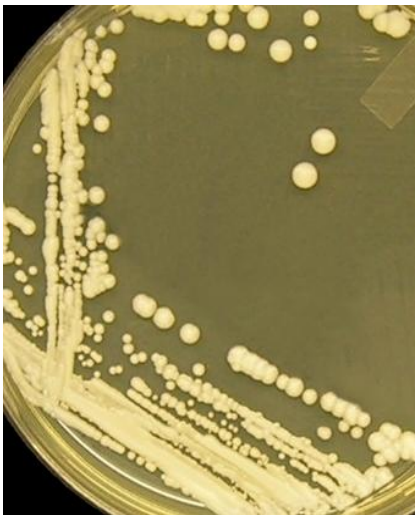
| | |
|---|---|
| **Dehydrated Appearance** | Cream to yellow colored, homogeneous, free flowing powder |
| **Prepared Medium** | Light amber coloured clear to slightly opalescent gel forms in Petri plates |
| **Reaction of 6.5% Solution** | pH : 5.6 ± 0.2 at 25°C |
| **Gel Strength** | Firm, comparable with 1.5% Agar gel |

# PRODUCT SPECIFICATION SHEET

**Expected Cultural Response:** Cultural characteristics observed on Sabouraud Dextrose Agar after an incubation at 20-25 °C for 24-48 hours. Recovery rate is considered as 100% for bacteria growth on Soybean Casein Digest Agar and fungus growth on Sabouraud Dextrose Agar

| Sr. No. | Organisms | Results to be achieved | | | |
|---|---|---|---|---|---|
| | | Inoculum (CFU) | Growth | Observed Lot value (CFU) | Recovery |
| 1. | *Candida albicans ATCC 10231* | 50 -100 | good-luxuriant | 35 - 100 | >=70% |
| 2. | *Aspergillus brasiliensis ATCC 16404* | 50 -100 | good-luxuriant | 50 - 100 | >=70% |
| 3. | *Candida albicans ATCC 2091* | 50 -100 | good-luxuriant | 35 - 100 | >=70% |
| 4. | *Saccharomyces cerevisiae ATCC 9763* | 50-100 | good-luxuriant | 35 - 100 | >=70% |
| 5. | *Escherichia coli ATCC 25922* | 50-100 | good-luxuriant | 35 - 100 | >=70% |
| 6. | *Escherichia coli ATCC 8739* | 50-100 | good-luxuriant | 35 - 100 | >=70% |
| 7. | *Escherichia coli NCTC 9002* | 50-100 | good-luxuriant | 35 - 100 | >=70% |
| 8. | *Trichophyton rubrum ATCC 28191* | 50-100 | good-luxuriant | 35 - 100 | >=70% |
| 9. | *Lactobacillus casei ATCC 334* | 50-100 | good-luxuriant | 35 - 100 | >=70% |

The organisms listed are the minimum that should be used for quality control testing.



*Candida albicans ATCC 10231*

*Aspergillus brasiliensis ATCC 16404*

**Test Procedure**

1. **For clinical specimens**
   Refer to laboratory procedures for details on specimen collection and handling.
   Refer to appropriate standard references for details on testing protocol to obtain isolated colonies.
2. **For cosmetic, food or environmental monitoring samples**
   Refer to appropriate standard methods for details on sample collection and preparation according to sample type and geographic location.
   Refer to appropriate standard references for details on testing methods.
3. **For pharmaceutical samples**
   Refer to USP General Chapters for details on sample collection and preparation for testing of non sterile products.

Refer to USP General Chapters <61> and <62> for details on examination of nonsterile products and performing microbial enumeration tests and the isolation of *Candida albicans*.[10]

4. For isolating fungi from potentially contaminated specimens, a selective medium should be inoculated along with the non-selective medium.
5. Incubate the plates at 25-30°C in an inverted position (agar side up) with increased humidity.
6. All cultures should be examined at least weekly for fungal growth.

**Results**

1. Count the number of colonies and consider the dilution factor (if test sample was diluted) to determine the yeast and/or mold counts per gram or milliliter of material.
2. Yeasts grow creamy to white colonies. Molds will grow as fuzzy colonies of various colors.
3. Biochemical tests and serological procedures should be performed to confirm findings.

**Storage**

Store the sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

**Expiration**

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

**Limitations of the Procedure**

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.
3. Some fungi may be inhibited by the acidic pH of the medium.

**Packaging**

**Product Name : Sabouraud Dextrose Agar.**
**Product Code : DM232**
**Available Pack sizes : 100gm / 500gm**

**References**


1. Carlier G. I. M., 1984, Brit. J. Derm. Syph., 60:61
2. Sabouraud R., 1892, Ann. Dermatol. Syphil. 3 : 1061.
3. Emmons C., Binford C, Uty J. and Kwon-Chung, 1970, Medical Mycology, 2nd Edi, Philadelphia: Lea and febiger.
4. Ajello, George, Kaplan and Kaufman, 1963. CDC laboratory manual for medical mycology. PNS Publication No.994 U.S Government Printing office, Washington, D.C
5. Curry, A. S., J. G. Graf, and G. N. McEwen, Jr. (eds.). 1993. CTFA Microbiology Guidelines. The Cosmetic, Toiletry, and Fragrance Association, Washington, D.C.
6. Marshall, R. T. (ed.). 1993. Standard methods for the microbiological examination of dairy products, 16th ed. American Public Health Association, Washington, D.C.
7. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalmanualBAM/default.htm.
8. Murray, P.R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds.). Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.
9. MacFaddin, J. F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol.1. Williams & Wilkins, Baltimore, MD.
10. The United States Pharmacopoeia, 2011, The United States Pharmacopoeial Convention. Rockville, MD.

11. Lorian (ed.). 2005. Antibiotics in laboratory medicine: making a difference, 5th ed. Lippincott Williams & Wilkins, Baltimore, Md.

**Further Information**

For further information please contact your local MICROMASTER Representative.

**MICROMASTER LABORATORIES PRIVATE LIMITED**
Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall' , Thane (W) – 400607. M.S. INDIA.
Ph: +91-22-25895505, 4760, 4681. Cell: 9320126789.
Email: micromaster@micromasterlab.com

**DM232PSS,Rev.00,Ver.00/ 01.02.2016**

Disclaimer :

All Products conform exclusively to the information contained in this and other related Micromaster Publications. Users must ensure that the product(s) is appropriate for their application, prior to use. The information published in this publication is based on research and development work carried out in our laboratory and is to the best of our knowledge true and accurate. Micromaster Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are intended for laboratory, diagnostic, research or further manufacturing use only and not for human or animal or therapeutic use, unless otherwise specified. Statements included herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.