



PRODUCT SPECIFICATION SHEET

Buffered Yeast Agar (DM050)

Intended Use

Buffered Yeast Agar (DM050) is recommended for cultivation of yeasts and moulds and for the control of bottle washing operations in the soft drink and related industries.

Product Summary and Explanation

Yeasts are very common in the environment, and are often isolated from sugar-rich materials. Yeasts grow well on a minimal medium containing only dextrose and salts. The addition of yeast extract allows faster growth so that during exponential or log phase growth, the cells divide every 90 minutes.⁽¹⁾ Buffered Yeast Agar is prepared as per the modification of the yeast-salt medium described by Davis.⁽²⁾

Principles of the Procedure

Buffered Yeast Agar contains yeast extract, which supplies B-complex vitamins to stimulate growth of organisms. Dextrose is the carbohydrate and energy source. Ammonium sulphate is a source of nitrogen, whereas ammonium dihydrogen phosphate serves as a buffering agent. The reaction of this medium can be adjusted to required pH values by the addition of citric or lactic acid to the medium after sterilization. The following table shows the amount of the acids required to be added to 100 ml of Buffered Yeast Agar cooled to 50°C.

Volume of acid to be added to 100 ml of medium to achieve the desired pH

pH	1% w/v solution of Citric acid monohydrate (ml)	1% w/v solution of Lactic acid (ml)
4.75	1.26	0.125
4.5	2.24	0.2
4.25	3.92	0.3
4.0	6.16	0.45
3.75	9.52	0.7
3.5	14.56	1.17

Formula / Liter

Ingredients	Gms / Liter
Yeast extract	5.00
Dextrose	20.00
Ammonium sulphate	0.72
Ammonium dihydrogen phosphate	0.26
Agar	15.00
Final pH: 5.5 ± 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 41 grams of medium in one liter distilled water.





PRODUCT SPECIFICATION SHEET

- Heat to boiling to dissolve the medium completely.
- Autoclave at 115°C, for 20 minutes / validated cycle.
- Mix well and pour into sterile Petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light amber coloured, clear to slightly opalescent gel forms in Petri plates
Reaction of 4.1% Solution	pH : 5.5 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response: Cultural characteristics observed after an incubation at 25-30°C for 48-72 hours.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Candida albicans</i> ATCC 10231	50 -100	good-luxuriant	≥70%
2.	<i>Saccharomyces cerevisiae</i> ATCC 9763	50 -100	good-luxuriant	≥70 %
3.	<i>Aspergillus brasiliensis</i> ATCC 16404	50 -100	good-luxuriant	--

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

Test Procedure

Procedure for assessing the efficiency of the bottle cleaning operations:

- As described by Bunker^(3, 4) in this method, the bottle under test is converted into a roll-tube culture by coating it internally with the medium.
- When the agar sets, the bottle is incubated and the colonies are counted and examined.
- This method gives better results than rinsing the bottle and subsequently plating the rinsings. When used for this purpose, the agar concentration in Buffered Yeast Agar should be increased by 1% w/v (before sterilization).

Refer appropriate references for standard test procedures.

Results

Refer to appropriate references and standard procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 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

- For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
- Consult appropriate texts for detailed information and recommended procedures.





PRODUCT SPECIFICATION SHEET

Packaging

Product Name : Buffered Yeast Agar

Product Code : DM050

Available Pack sizes : 500gm

References

1. Ausubel, Brent, Kingston, Moore, Seidman, Smith and Struhl, 1994, Current Protocols in Molecular Biology, Current Protocols, Brooklyn, N.Y.
2. Davis J. G., 1931, J. Dairy Res., 3:133.
3. Bunker H. J., 1952, Lab. Prac., 18:354.
4. Bunker H. J., 1956, Wallerstein Lab. Communications, 19(65): 143.

Further Information

For further information please contact your local MICROMASTER Representative.



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