

## Buffered Yeast Agar

Buffered Yeast Agar is used as a semisynthetic medium for the cultivation of yeasts and molds and for controlling bottle washing operations in soft drinks and related industries.

REF: BS.1/BYA01.100.0100	100 Gram	REF: BS.1/BYA01.250.0250	250 Gram
REF: BS.1/BYA01.500.0500	500 Grams		

### CLINICAL SIGNIFICANCE

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).

### METHOD PRINCIPLE

The medium contains yeast extract, which supplies B-complex vitamins to stimulate growth. Dextrose is the carbohydrate source. 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. to achieve desired pH		
pH	1% w/v solution of Citric acid monohydrate (ml)	1% w/v solution of Lactic acid (ml)
4.75	1.26	
4.5	2.24	
4.25	3.92	
4.0	6.16	
3.37	9.25	
3.5	14.56	

Bunker (3, 4) described a practical method for assessing the efficiency of the bottle cleaning operations. 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).

### MEDIA COMPOSITION

Item	Formula per liter of medium
Yeast Extract	5.000 gm.
Dextrose	20.00 gm.
Ammonium sulphate	0.720 gm.
Ammonium dihydrogen phosphate	0.260 gm.
Agar	15.000 gm.

**Final pH 5.5 ± 0.2 at 25°C**

### PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of

soap and water. In case of severe injuries; seek medical advice immediately.

- Respect country requirement for waste disposal.
  - S56:** dispose of this material and its container at hazardous or special waste collection point.
  - S57:** use appropriate container to avoid environmental contamination.
  - S61:** avoid release in environment.

For further information, refer to the Buffered Yeast Agar material safety data sheet.

### STORAGE AND STABILITY

**BioScien** Buffered Yeast Agar should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

### PREPARATION

- Suspend 41 grams in 1000 ml distilled water.
- Adjust pH to 5.5 ± 0.2 at 25°C.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes.
- Pour into sterile petri plates

### Deterioration

The color of **BioScien** Buffered Yeast Agar is Cream to yellow homogeneous free flowing powder. Prepared Media Light amber coloured, clear to slightly opalescent gel. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

### SPECIMEN

- Bottles used in soft drink industries.
- Food sample (milk and other dairy products)

### EQUIPMENT REQUIRED NOT PROVIDED

- Inoculating loops, swabs, collection containers
- Incubators
- Petri dish

## PERFORMANCE CHARACTERISTICS

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









Organism	Result
<i>Candida albicans</i> ATCC 10231	Luxuriant
<i>Saccharomyces cerevisiae</i> ATCC 9763	Luxuriant
<i>Aspergillus brasiliensis</i> ATCC 16404	Luxuriant

## QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control still out of range please contact **BioScien** technical support.

## 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.

SYMBOLS IN PRODUCT LABELLING	
 Batch Code/Lot number	 Caution
 Catalogue Number	 Do not use if package is damaged
 Temperature Limitation	 Consult Instruction for use
 Expiration Date	
 Manufactured by	