

# **Technical Data**

# Ashby's Sucrose broth

**Intended Use:** 

Recommended for growth and maintenance of Azotobacter chroococcum.

Composition**	
Ingredients	Gms / Litre
Sucrose	20.000
Dipotassium hydrogen phosphate	0.200
Magnesium sulphate	0.200
Sodium chloride	0.200
Potassium sulphate	0.100
Calcium carbonate	5.000
Final pH ( at 25°C)	7.4±0.2
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\*\*Formula adjusted, standardized to suit performance parameters

### **Directions**

Suspend 25.7 grams in 1000 ml purified / distilled water. Heat just to boiling. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure ( $121^{\circ}C$ ) for 15 minutes.

Note: Due to presence of calcium carbonate, the prepared medium forms opalescent solution with white precipitate.

### **Principle And Interpretation**

*Azotobacter* is a genus of free-living diazotrophic bacteria which have the highest metabolic rate compared to any other microorganism.

Azotobacters are chemoorganotrophic, using sugars, alcohols and salts of organic acids for growth.

Ashby's Medias are formulated as described by Subba Rao (3). It is used for isolation of *Azotobacter*, a non-symbiotic nitrogen fixing bacteria which uses sucrose as a carbon source and atmospheric nitrogen as nitrogen source. Besides the ability to fix atmospheric nitrogen, *Azotobacter* also synthesize biologically active substances which attributes to improving seed germination, plant growth etc. Dipotassium hydrogen phosphate provides buffering to the system. Various essential ions required for promoting growth of *Azotobacter* are also available in this medium

**Type of specimen** 

Soil Sample

# **Specimen Collection and Handling**

For soil samples follow appropriate techniques for handling specimens as per established guidelines (3). After use, contaminated materials must be sterilized by autoclaving before discarding.

#### **Warning and Precautions**

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets

# Limitations

1. Other Nitrogen fixing bacteria capable to fix atmospheric nitrogen, grows when cultured on this nitrogen-free medium.

# **Performance and Evaluation**

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

**M2024** 

#### **Quality Control**

AppearanceWhite to cream homogeneous free flowing powderColour and Clarity of prepared mediumColourless, opalescent solution in tubes with precipitateReactionReaction of 2.57% w/v aqueous solution at 25°C. pH : 7.4±0.2pH7.20-7.60Cultural ResponseCultural characteristics observed after an incubation at 25-30°C for upto 5 days.OrganismGrowth

Azotobacter chroococcum good-luxuriant MTCC 7724

#### Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in 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.

#### **Disposal**

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (1,2).

#### Reference

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2<sup>nd</sup> Edition.

- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
- 3. Subba Rao, 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., India.

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#### Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia<sup>™</sup> publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia<sup>™</sup> Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.

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