

Dehydrated Culture Media Bases / Media Supplements

Technical Information

Bushnell Haas Broth

Product Code: DM 1350

Application: - Bushnell Haas Broth is recommended for the examination of fuels for microbial contamination and for studying microbial hydrocarbon deterioration.

Ingredients	Gms / Litre				
Magnesium sulphate	0.200				
Calcium chloride	0.020				
Monopotassium phosphate	1.000				
Dipotassium phosphate	1.000				
Ammonium nitrate	1.000				
Ferric chloride	0.050				
Final pH (at 25°C)	7.0±0.2				

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Bushnell Haas Broth is prepared according to the formula of Bushnell and Haas⁽¹⁾ This medium is recommended for the microbiological examination of fuels by the SIM Committee on microbiological deteriorations of fuels⁽²⁾. The media contain all nutrients except carbon source, necessary for the growth of bacteria. Only those bacteria that are able to decompose hydrocarbon will grow in these media. Specific carbon source in the form of hydrocarbon can be added to this medium and their utilization by different microorganisms can be studied.

These bacteria can decompose a variety of hydrocarbons like kerosene, mineral oil, paraffin wax and gasoline. Liquid hydrocarbon is layered on the surface of inoculated agar. For testing volatile hydrocarbons such as gasoline the Petri-plates containing the medium are inverted and the hydrocarbon is poured into the lid.

Magnesium sulphate, calcium chloride and ferric chloride provide trace elements. Ammonium nitrate is a nitrogen source while monopotassium phosphate and potassium phosphate buffers the medium.

Methodology

Suspend 3.27 grams of powder media in 1000 ml distilled water. Shake well & heat if necessary to dissolve the medium completely.

Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. A white precipitate prior to sterilization becoming yellow to orange after

sterilization is normal.

Quality Control

Physical Appearance

White to cream homogeneous free flowing powder

Colour and Clarity of prepared medium Colourless coloured clear to slightly opalescent solution in tubes.

Reaction Reaction of 0.3 3% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range 6.80-7.20





Cultural Response/ characteristices

DM 1350: Cultural characteristics observed after an incubation at 25-30°C within 1 week.

Organism	Inoculum (CFU)	Growth (Plain)	Growth w/ minerals
Pseudomonas aeruginosa ATCC 27853	50-100	poor	good-luxuriant
Pseudomonas aeruginosa A TCC 9027	50-100	poor	good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label. Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Bushnell and Haas, 1941, J. Bacteriol., 41:653.

2. Allred, DeGray, Edwards, Hedrick, Klemme, Rogers, Wulf and Hodge, 1963, Proposed Procedures for Microbiological Examination of Fuels, SIM Special Publications, No. 1. Merck, Sharp & Dohme Research Laboratories, Rahway, N.J.

Disclaimer:

- User must ensure suitability of the product(s) in their application prior to use.
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