OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Bushnell Haas Agar

Principle

Bushnell-Haas agar is modification of Bushnell Hass broth describe by Bushnell and Hass, for enrichment of hydrocarbon decomposing microorganisms. The media is composed of magnesium sulfate, calcium chloride, monopotassium phosphate, ammonium phosphate dibasic, potassium nitrate ferric chloride and agar. Magnesium sulfate, calcium chloride and ferric chloride provides necessary trace elements for growth of bacteria. Monopotassium phosphate and ammonium phosphate dibasic are buffering agents. Potassium nitrate is a nitrogen source. The media lacks carbon source and can be fortified with hydrocarbons for evaluation of hydrocarbon decomposing ability. Agar is solidifying agent. Bushnell-Haas was recommended for the microbiological examination of fuels by the Society for Industrial Microbiology (SIM) Committee on Microbiological Deterioration of Fuels.

Use: For examination of fuels for microbial contamination and also for examine hydrocarbon deterioration by bacteria.

Contents*

Ingredients	Gram/Litre
Magnesium Sulfate	0.200
Calcium Chloride	0.020
Monopotassium Phosphate	1.000
Ammonium Phosphate Dibasic	1.000
Potassium Nitrate	1.000
Ferric Chloride	0.050
Agar	20.000
pH at 25˚C	7.0 ±0.2

*** Formula adjusted for optimum performance and parameters**

OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

Directions: Dissolve 23.27 grams in 1000 ml distilled water check. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45 °C and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.

For hydrocarbon decomposing ability: Dissolve 23.27 grams in 1000 ml distilled water check and adjust the pH if required so that after sterilization it is 7.0±0.2. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45 °C mix with sterile test hydrocarbon and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens' types analyzed

Hydrocarbons such as kerosene, light and heavy mineral oils, paraffin wax, and gasoline etc.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	**Tan colored free flowing, homogeneous powder**
Reaction of 2.33% solution	**7.0 ±0.2 at 25 ˚C**
pH	**6.80- 7.20**
Gelling	**Firm comparable with 2% agar gel**
Color and clarity of ready medium	**Light amber colored with slightly opalescent gel.**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-24 hours.

Organism	ATCC	Inoculum (CFU)	Growth with hydrocarbon	Growth without hydrocarbon
Pseudomonas aeruginosa	27853	50-100	Luxurious	Poor

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. **Allred, R. C., R. J. DeGray, R. W. Edwards, H. G. Hedrick, D. E. Klemme, M. Rogers, M. Wulf, and H. Hodge. (1963). *Proposed procedures for microbiological examination of fuels*. SIM Special Publications, Number 1. Merck, Sharp & Dohme Research Laboratories, Rahway, NJ.**
2. **Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.**
3. **Bushnell, L. D., and H. F. Haas. (1941). *The utilization of certain hydrocarbons by microorganisms*. J. Bacteriol. 41:653-673.**
4. ***Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.**

OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

Disclaimer:

****

The information contained herein in good faith but makes no representations as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

Oxford Lab Fine Chem LLP makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Oxford Lab Fine Chem LLP will not be responsible for damages resulting from use of or reliance upon this information.