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

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TECHNICAL DATA SHEET

Bacillus Cereus Agar Base

Principle

Bacillus Cereus Agar Base is used for isolation and enumeration of Bacillus cereus from food samples. The media is composed of peptone, mannitol, sodium chloride, magnesium sulfate, disodium phosphate and monopotassium phosphate, sodium pyruvate, bromothymol blue and agar. Peptone provide nitrogen, amino acids, carbon, vitamins and other necessary growth factors necessary for growth of microorganisms. Mannitol is carbon source, Sodium Chloride to maintain osmotic balance. Magnesium sulphate provides divalent ions essential for the growth and metabolic reactions. Phosphates act as buffering agents. Sodium pyruvate helps in recovery of injured cells and improve egg yolk precipitation and enhance sporulation. Bromothymol blue acts as pH indicator to detect mannitol fermentation. Addition of polymyxin-B sulphate at a final concentration of 100 units per ml of medium is sufficient to make the medium selective for the isolation of Bacillus cereus. Polymyxin-B sulphate suppresses the growth of accompanying bacterial flora. If moulds are suspected in the inoculum, 40 mcg per ml filter-sterilized cycloheximide may be incorporated to suppress the mould contamination.

Use: For the isolation and enumeration of Bacillus cereus.

Contents*

Ingredients	Gram/Litre
Peptone	1.000
Mannitol	10.000
Sodium Chloride	2.000
Magnesium sulphate	0.100
Disodium phosphate	2.500
Monopotassium phosphate	0.250
Sodium pyruvate	10.000
Bromo thymol blue	0.120
Agar	15.000
pH at 25°C	7.2 ±0.2

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

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Directions: Dissolve 41.00 grams in 950 ml distilled water. 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 aseptically add Polymyxin B (so as to get 100 units/ml) and 50 ml sterile egg yolk emulsion. Mix well and pour into sterile petri plates. Avoiding air bubbles while pouring. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Food and dairy samples 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	**Greenish Beige colored free flowing, homogeneous powder**
Reaction of 4.10% solution	**7.2 ±0.2 at 25 ˚C**
pH	**7.00- 7.40**
Gelling	**Firm comparable with 1.5% agar gel**
Color and clarity of ready medium	**Green color, clear to slightly opalescent gel, after addition of egg yolk emulsion: yellowish green colored opaque gel form in petri plates.**
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**

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Different Microbial Response

Cultural characteristics observed with added Polymyxin b and egg yolk emulsion, after an incubation at 3537°C for 24-48 hours (Inoculum 50-100 CFU)

Organism	ATCC	Growth	Recovery	Colony morphology
Bacillus cereus	10876	Luxurious	≥ 60%	Blue color colonies with egg yolk precipitation
Proteus vulgaris	13315	Luxurious	≥ 60%	green color colonies without egg yolk precipitation
Staphylococcus aureus	25923	Luxurious	≥ 60%	Yellow color colonies with egg yolk precipitation
Escherichia coli	8739	Inhibited	--	--

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. **American Public Health Association (1978),** ***Standard Methods for the Examination of Dairy Products*****, 1978, 14th Ed., Washington DC.**
2. **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. **Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015,** ***Compendium of Methods for the Microbiological Examination of Foods*****, 5th Ed., American Public Health Association, Washington, D.C.**
4. **Wehr H. M. and Frank J. H., (2004),** ***Standard Methods for the Microbiological Examination of Dairy Products*****, 17th Ed., APHA Inc., Washington, D.C.**

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