

## Technical Information

### Actinomyces broth

**Product Code: DM 1233**

**Application:** - Actinomyces broth is recommended for the cultivation and maintenance of the anaerobic *Actinomyces* species.

#### Composition\*\*

Ingredients	Gms / Litre
Beef heart infusion, solids	10.000
Tryptose	10.000
Casein enzymic hydrolysate	4.000
Yeast extract	5.000
Dextrose	5.000
L-Cysteine hydrochloride	1.000
Starch, soluble	1.000
Sodium chloride	5.000
Monopotassium phosphate	15.000
Ammonium sulphate	1.000
Magnesium sulphate	0.200
Calcium chloride	0.020
Final pH ( at 25°C)	7.2±0.2

\*\*Formula adjusted, standardized to suit performance parameters

#### Principle & Interpretation

*Actinomycetes* are gram positive bacteria which show marked chemical and morphological diversity but form a distinct evolutionary line of organisms that range from coccoid and pleomorphic forms to branched filaments <sup>(1)</sup>. *Actinomycete are the part & parcel of soil, water and vegetation and their development* leads to the formation of volatile metabolites which are sufficient to give disagreeable odour to water or a muddy flavour to fish <sup>(2,3)</sup>. *Actinomycetes* also interfere in wastewater treatment by forming massive growths, which are capable of producing thick foam in the activated sludge process <sup>(4,5)</sup> Actinomyces Broth is a modification of the Maintenance Medium formulated by Pine and Watson <sup>(6)</sup> which is further modified <sup>(7)</sup> and is recommended for the cultivation and maintenance of anaerobic *Actinomycete* species. Actinomyces Broth contains beef heart infusion, casein enzymic hydrolysate, yeast extract, starch and dextrose, which act as sources of carbon, nitrogen, sulphur, vitamins and other essential growth factors. The metallic salts provide essential electrolytes and minerals.

#### Methodology

Suspend 57.22 grams of powder medium in 1000 ml distilled water. Shake well & eat if necessary to dissolve the medium completely.

Distribute into tubes or flasks. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

#### Quality Control

##### Physical Appearance

Cream to yellow homogeneous free flowing powder

##### Colour and Clarity of prepared medium

Yellow to light amber coloured slightly opalescent solution with a slight precipitate forms in tubes.

##### Reaction

Reaction of 5.72% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH Range:- 7.00-7.40

##### Cultural Response/Characteristics

DM 1233: Cultural characteristics observed after an incubation at 25-30°C for 40-72 hours. (\*- incubated anaerobically)



Dehydrated Culture Media  
Bases / Media Supplements

Organism	Growth
* <i>Actinomyces israelii</i> ATCC 10049	Good
<i>Streptomyces achromogenes</i> ATCC 12767	Good
<i>Streptomyces albus</i> subsp <i>good albus</i> ATCC 3004	Good
<i>Streptomyces lavendulae</i> ATCC 8664	Good
* <i>Actinomyces bovis</i> ATCC 13683	Good

## 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<sup>0</sup> in sealable plastic bags for 2-5 days.

## Further Reading

1. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14 th Edition, Churchill Livingstone.
2. Adams B. A., 1929, Water and Water Eng., 31:327.
3. Eaton A. D., Clesceri L. S. and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
4. Lechevalier H. A., 1975, Environ. Protection Technol. Ser., EPA-600/ 2-75-03 1, U. S. Environmental Protection Agency, Cincinnati, Ohio.
5. Lechevalier M. P., and Lechevalier H. A., 1974, Int. J. Syst.Bacteriol., 24:278.
6. Pine L., and Watson S. J., 1959, J. Lab. Clin. Med., 54(1), 10
7. Ajello L., Georg L. K., Kaplan W. and Kaufman L., 1963, CDC Lab Manual Med. Mycology, PHS Publication No. 994, CDC, Washington D.C.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House 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 diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- 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.
- Do not use the products if it fails to meet specifications for identity and performs parameters.

