

## Technical Information

### Halophilic Broth

**Product Code: DM 1591**

**Application:** - Recommended for isolation and cultivation of extremely halophilic bacteria.

### Composition\*\*

| Ingredients             | Gms / Litre |
|-------------------------|-------------|
| Casein acid hydrolysate | 10.000      |
| Yeast extract           | 10.000      |
| Proteose peptone        | 5.000       |
| Trisodium citrate       | 3.000       |
| Potassium chloride      | 2.000       |
| Magnesium sulphate      | 25.000      |
| Sodium chloride         | 250.000     |
| Final pH ( at 25°C)     | 7.2±0.2     |

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

### Principle & Interpretation

Halophilic media are formulated for isolation and cultivation of extreme halophilic species of *Halobacterium* and *Halococcus* from foods<sup>(1, 2)</sup>. For optimum growth they require high salt concentration of about 20 - 30%. In general, the requirement of salt by halophilic microorganisms is not an exclusive need since many species in addition to NaCl also require low levels of K<sup>+</sup>, Mg<sup>++</sup> and other ions<sup>(3, 4)</sup>. The level of salt required by microorganism varies greatly. Therefore the microbial types associated with a particular salted food depend on the concentration of salt and the type of food. The most recent classifications of halophilic microorganisms are based on the level of salt required by them<sup>(2, 3)</sup>. These bacteria can cause pink discoloration on the outer surface accompanied by putrefaction and decomposition of fish, bacon and hides preserved in sea salts.

Halophilic Broth contains casein acid hydrolysate; proteose peptone and yeast extract which provide all the necessary nutrients, mainly nitrogenous and vitamins to the halophilic bacteria. Trisodium citrate is added to avoid the losses<sup>(2)</sup>. Magnesium sulphate, sodium chloride and potassium chloride are essential ions required for the growth of extreme halophiles. 10 gm sample is added to 90 ml Halophilic Broth and incubated at 35°C for upto 12 days. The organisms are then isolated onto Halophilic Agar (DM1590) from this enriched culture.

### Methodology

Suspend 30.5 grams of powder media in 100 ml distilled water. Shake well & heat to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

## Quality Control

### Physical Appearance

Off-white to yellow homogeneous free flowing powder

### Colour and Clarity of prepared medium

Amber coloured, slightly hazy solution with heavy precipitate at the bottom in tubes..

### Reaction

Reaction of 3 0.5% w/v solution at 25°C. pH : 7.2±0.2

pH Range 7.00-7.40

### Cultural Response/Characteristics

DM 1591: Cultural characteristics observed after an incubation at 35-37°C for 12 days.

### Organism

*Halobacterium salinarium*  
ATCC 33171

*Halococcus morrhuae*  
ATCC 17082

### Growth

luxuriant

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

## Further Reading

1. Dundas I.E., 1977, Advances In Microbiology and Physiology, Rose H. and Tempest D.W. (Eds.), A.P. London.
2. Gibbons N.E., 1969, Methods In Microbiology, Vol. 3B, Norris J.R., and Ribbons D.W. (Eds.), A.P., New York, pp.169-183.
3. Kushner D. J., (Eds.), 1978, D. J. Kushner, pg 317, Academic Press, London, England
4. MacLeod R. A., 1965, Bacteriol., Rev., 29:9

## 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.
- Donot use the products if it fails to meet specificatons for identity and performens parameters.