

Specification

Solid culture medium for heterotrophic marine bacteria.

Formula * in g/L

| | | |
|-------------------------|---------|--------------------------------|
| Meat peptone..... | 5,0000 | |
| Yeast extract..... | 1,0000 | Magnesium chloride..... 8,8000 |
| Iron citrate..... | 0,1000 | Potassium chloride..... 0,5500 |
| Sodium chloride..... | 19,4500 | Potassium bromide..... 0,0800 |
| Sodium sulfate..... | 3,2400 | Strontium chloride..... 0,0340 |
| Sodium bicarbonate..... | 0,1600 | Ammonium nitrate..... 0,0016 |
| Sodium silicate..... | 0,0040 | Boric acid..... 0,0220 |
| Sodium fluoride..... | 0,0024 | Agar..... 15,0000 |
| Disodium phosphate..... | 0,0080 | |
| Calcium chloride..... | 1,8000 | Final pH 7,6 ±0,2 at 25 °C |

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 55,1 g of the powder in 1 L of distilled water and bring to the boil. Distribute in suitable containers and sterilize in the autoclave at 121°C for 15 minutes.

Description

Marine Agar was formulated according to the original description of ZoBell that tries to duplicate the major mineral concentration found in sea water. Included in its composition are mineral salts, peptone and yeast extract, and growth factors necessary to sustain the growth of heterotrophic marine bacteria.

The gelling agent is agar and it is often found to be liquefied by marine bacteria.

Marine bacteria are thermo-sensitive and streak-plates are recommended, if pour-plates are preferred, the molten medium must be cooled to 45°C before pouring it over the sample.

Marine Agar is a very hygroscopic medium: Keep the bottle tightly capped in a dry place.

Quality control

Incubation temperature: 20-25°C

Incubation time: 44 - 72 h

Inoculum: Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity) according to ISO 11133:2014/Amd 1:2018

Microorganism

Escherichia coli ATCC® 25922

Vibrio parahaemolyticus ATCC® 17802

Vibrio alginolyticus ATCC® 17749

Growth

Good

Productivity > 0.70

Productivity > 0.70

Remarks

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References

- BUCK, J.D. & R.C. CLEVERDON (1960) The spread plate as a method for the enumeration of marine bacteria. Limnol. Oceanogr. 5:78-80.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- SIZEMORE, R.K. & L.H. STEVENSON (1970) Method for the isolation of proteolytic marine bacteria. Appl. Microbiol. 20:991-992.
- ZOBELL, C.E. (1941) Studies on marine bacteria. I. The cultural requirements of heterotrophic aerobes. J. Mar. Res. 4:42-75.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).