

PRODUCT CODE: 416895

Minerals (modified) Glutamated Broth (MMGB) (ISO16649-3) (Dehydrated Culture Media) for microbiology

Preparation

Suspend 17.7 grams of the medium in one litre of distilled water. Add 2.5 grams of Ammonium Chloride. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 116°C for 10 minutes. The prepared medium should be stored at 2-8°C.

The colour is clear purple. The dehydrated medium should be homogeneous, free-flowing and beige in colour. If there are any physical changes, discard the medium.

Uses

MINERALS MODIFIED GLUTAMATE BROTH Base (MMGB) is recommended by ISO 16649-3 for enumeration of E.coli using the most probable number Method (MPN). MMGB Broth is also an alternative broth used for the presumptive identification of coliforms in water.

ISO 16649-3 recommends inoculating three tubes of a single strength and three tubes of a double strength medium. The tubes of double- and single-strength medium are inoculated at 37 °C for 24 h. The tubes are examined for acid production, indicating lactose fermentation. Each tube of selective enrichment medium showing acid production is subcultured to TBX Chromogenic Agar.

In comparison to other media, this broth is better as it gives fewer false positive results. Sodium Glutamate and Sodium formate are the basis of the medium for the enumeration of coliform organisms in water. Lactose is the source of carbohydrates. The addition of vitamins, aminoacids and heptahydrate magnesium sulfate increase fermentation, whereas the addition of ferric ammonium citrate permits increase of gas production. The Bromocresol Purple is a pH indicator.

Incubate at 35°C ± 2°C and observe after 18-48 hours.

Composition

See in Data Sheet (TDS).

Microbiological Test

The following results were obtained in the performance of the medium (having added 2.5 grams of ammonium chloride per liter) from type cultures after incubation at a temperature of $35 \pm 2^\circ\text{C}$ and observed after 18-48 hours.

| Microorganism | Growth | Gas and Acid Production (yellow) |
|--|-----------|----------------------------------|
| <i>Enterobacter aerogenes</i> ATCC 13048 | Good | + |
| <i>Enterococcus faecalis</i> ATCC 19433 | Inhibited | - |
| * <i>Escherichia coli</i> ATCC 25922 | Good | + |
| * <i>Escherichia coli</i> ATCC 8739 | Good | + |
| <i>Salmonella typhimurium</i> ATCC 14028 | Good | - |

* Incubate at 37°C for 24 ± 2 hours According to ISO 16649

Storage

Once opened keep powdered medium closed to avoid hydration.

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