

## TM 1857 - MINERAL MODIFIED GLUTAMATE BROTH BASE (ISO 16649-3:2005)

### INTENDED USE

For enumeration of coliform bacteria in water and wastewater samples.

### PRODUCT SUMMARY AND EXPLANATION

Minerals Modified Glutamate Broth Base is recommended by ISO 16649-3 for enumeration of *E.coli* using the most probable number Method (MPN). This medium is also an alternative broth used for the presumptive identification of coliforms in water.

ISO 16649-3 recommend to inoculate 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 (TM 1339).

### COMPOSITION

Ingredients	Gms / Ltr
Lactose	10.000
Sodium Glutamate	6.350
Dipotassium phosphate	0.900
Sodium Formate	0.250
Heptahydrate Magnesium sulphate	0.100
L(-) Aspartic acid	0.024
L(-) Arginine	0.020
L(-) Cystine	0.020
Ferric ammonium citrate	0.010
Calcium chloride dehydrate	0.010
Bromocresol purple	0.010
Thiamine	0.001
Pantothenic acid	0.001
Nicotinic acid	0.001

### PRINCIPLE

Sodium glutamate and sodium formate are the basis of the medium required for the enumeration of coliform organisms in water. Lactose is the source of carbohydrates. The addition of vitamins, amino acids 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.

### INSTRUCTION FOR USE

- Dissolve 17.77 grams in 1000ml distilled water.
- Add 2.5grams of Ammonium Chloride.
- Gently heat to boiling with swirling to dissolve the medium completely.
- Dispense into tubes or as desired.
- Sterilize by autoclaving at 116°C for 10 minutes.
- Cool to 45-50°C prior to use.

**Note:** Mix well and dissolve by heating with frequent swirling. Boil for one minute until complete dissolution.

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Dehydrated powder** : White with black particles, Fine powder  
**Appearance of Prepared medium** : Purple coloured, Clear solution  
**pH (at 25°C)** : 6.7± 0.1

### INTERPRETATION

Cultural characteristics observed with after incubation with addition of 2.5grams of Ammonium Chloride.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid Production	Gas Production	Incubation Temperature	Incubation Period
<i>Enterobacter aerogenes</i>	13048	50-100	Luxuriant	Positive reaction	Positive reaction	35 ±2°C	18-48 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Positive reaction	Positive reaction	37°C	24 ± 2 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	Negative reaction	Negative reaction	35 ±2°C	18-48 Hours
<i>Staphylococcus aureus</i>	25923	≥1000	Inhibited	-	-	35 ±2°C	18-48 Hours
<i>Enterococcus faecalis</i>	29212	≥1000	Inhibited	-	-	35 ±2°C	18-48 Hours

### PACKAGING

In 500 gm packaging size.

### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










**Product Deterioration:** Do not use, if powder show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

### DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

### REFERENCES

- ISO 16649-3 Microbiology of food and animal feeding stuffs-Horizontal method for the enumeration of β-glucuronidase-positive *Escherichia coli*-Part 3: Most probable number technique using 5-bromo-4-chloro-3-indolyl-β-D-glucuronide.
- Departments of the Environment, Health & Social Security, and P.H.L.S. 1982. The bacteriological examination of drinking water supplies. Report on public Health and Medical Subjects No. 71., H.M.S.O., London, England.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Cataloge Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**

**Revision: 9<sup>th</sup> July 2020**

