

# TM 2245 – MINERAL MODIFIED GLUTAMATE AGAR BASE (DOUBLE PACK) (ISO 6391:1997)

#### **INTENDED USE**

For enumeration of *Escherichia coli* from meat and meat products.

## PRODUCT SUMMARY AND EXPLANATION

Folpmers described a glutamic acid based chemically defined medium for the enumeration of coliform bacteria from water and wastewater. This glutamate-containing medium was later modified by Gray, by the addition of lactose, which gave less false positive results when compared to MacConkey Broth. Mineral Modified Glutamate Agar Base is recommended for the enumeration of *Escherichia coli* from meat and meat products by colony count at 44°C by membrane filtration technique. Anderson and Baird-Parker described a direct plate method for the rapid enumeration of *E. coli* in foods and this method was modified by a resuscitation procedure using Mineral Modified Glutamate Agar with successful recovery of damaged cells from frozen, dried, heat processed or low pH foods.

#### **COMPOSITION**

Ingredients	Gms / Ltr					
Part I						
Lactose	10.000					
Dipotassium phosphate	0.900					
Sodium formate	0.250					
L-Cystine	0.020					
L-Aspartic acid	0.024					
L-Arginine	0.020					
Thiamine	0.001					
Nicotinic acid	0.001					
Pantothenic acid	0.001					
Ferric ammonium citrate	0.010					
Calcium chloride, 2H2O	0.010					
Magnesium sulphate, 7H2O	0.100					
Agar	15.000					
Part II						
Sodium glutamate	6.350					

# **PRINCIPLE**

This media contains a variety of nutrients including salts, amino acids and vitamins. Lactose is the fermentable carbohydrate. Because of the nutrients, this media is superior for enumerating coliforms in water and wastewater as it satisfies most of the nutritional requirements of coliforms.

## **INSTRUCTION FOR USE**

• Dissolve 26.29 grams of dehydrated Part I and 6.35 grams of Part II in 1000 ml distilled water containing 2.5 grams ammonium chloride.











Heat if necessary to dissolve the medium completely.

Sterilize by autoclaving at 10 lbs (115°C) for 10 minutes. Mix well and pour into sterile Petri plates.

### **QUALITY CONTROL SPECIFICATIONS**

Appearance of Powder : Part I : Off-white to light yellow homogeneous free flowing powder Part II :

Colourless to White needles

: Yellow coloured clear to slightly opalescent gel forms in Petri plates. Appearance of prepared medium

: 6.7±0.2 pH (at 25°C)

#### **INTERPRETATION**

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	>=70%	44°C	24 Hours

#### **PACKAGING:**

In pack size of 500 gm bottles.

# **STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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 they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

## **DISPOSAL**

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

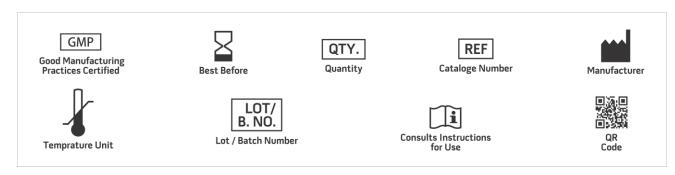
#### **REFERENCES**

1.Folpmers T., 1948, Ant. V. Leeuwenhoek, J. Microbiol. Serol., 14:58.

2.Gray R.D., 1959, J. Hyg. Camb., 57:249.

3. Anderson J. M., and Baird Parker A. C., 1975, J. Appl. Bacteriol., 39:111.

4.International Organization for Standardization (ISO), 1988, Draft, ISO/DIS 6391.

















**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices. \*For Lab Use Only Revision: 08 Nov., 2019









