

CM 21197 – MINERAL MODIFIED GLUTAMATE AGAR BASE (DOUBLE PACK) (ISO 6391:1997)

INTENDED USE

Forenumeration of Escherichia coli from meat and meat products.

PRODUCT SUMMARY AND EXPLANATION

Folpmer 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, 2H ₂ O	0.010
Magnesium sulphate, 7H ₂ O	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

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

pH (at 25°C) : 6.7±0.2

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. Folpmer 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.

 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

