

## TM 486 – WL - NUTRIENT BROTH

### INTENDED USE

For cultivation of yeasts, molds and bacteria encountered in breweries and industrial fermentations.

### PRODUCT SUMMARY AND EXPLANATION

WL (Wallerstein Laboratory) media are formulated as described by Green and Gray for the examination of materials encountered in brewing and for industrial fermentations containing mixed flora of yeast and bacteria. Baker's yeast counts can be carried out in this medium at a pH 5.5. By adjusting the pH to 6.5, the medium can be used for obtaining counts of Baker and distillers yeast. If desired Durham's tubes can be added to WL Nutrient Broth to study fermentation reactions.

### COMPOSITION

Ingredients	Gms / Ltr
Tryptone	5.000
Yeast extract	4.000
Dextrose (Glucose)	50.000
Potassium dihydrogen phosphate	0.550
Potassium chloride	0.425
Calcium chloride anhydrous	0.125
Magnesium sulphate	0.125
Ferric chloride	0.0025
Manganese sulphate	0.0025
Bromo cresol green	0.022

### PRINCIPLE

The medium consists of Yeast extract which serves as a source of trace elements, vitamins and amino acids. Tryptone is used as a source of nitrogen, amino acids and carbon. Dextrose is the source of carbohydrate. Buffering of the medium is done by potassium dihydrogen phosphate. Potassium chloride, calcium chloride and ferric chloride are essential ions that help to maintain the osmotic balance. Magnesium sulphate and manganese sulphate are sources of divalent cations. Bromo cresol green is a pH indicator.

### INSTRUCTION FOR USE

- Dissolve 60.25 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense in tubes or flasks or as desired Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C. If desired to obtain a pH of 6.5, add 1% solution of sodium bicarbonate before sterilization.

### QUALITY CONTROL SPECIFICATIONS



**Appearance of Powder** : Light yellow to light green homogeneous free flowing powder.  
**Appearance of prepared medium** : Bluish green coloured very slightly opalescent solution in tubes.  
**pH (at 25°C)** : 5.5 ± 0.2

## INTERPRETATION

Cultural characteristics observed in tubes containing inverted Durham's tubes after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid	Gas	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Fair-good	Positive reaction, yellow colour	Positive	35-37°C	40-48 Hours
<i>Lactobacillus fermentum</i>	9338	50-100	Fair-good	Positive reaction, yellow colour	Slightly positive	35-37°C	40-48 Hours
<i>Saccharomyces cerevisiae</i>	9763	10-100	Good	Positive reaction, yellow colour	Positive	30-32°C	upto 5 days

## 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. Green S. R. and Gray P. P., 1950, Wallerstein Lab. Commun., 12:43
2. Green S. R. and Gray P. P., 1950, Wallerstein Lab. Commun., 13:357
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation- Identification- Maintenance of Medical Bacteria, Vol.1, Williams & Wilkins, Baltimore, Md.



  
Good Manufacturing  
Practices Certified


  
Best Before

  
Quantity

  
Catalogue Number

  
Manufacturer

  
Temperature Unit

  
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: 08 Nov., 2019**