



## PRODUCT SPECIFICATION SHEET

### WL Nutrient Broth (DM289)

#### Intended Use

WL Nutrient Broth (DM289) is recommended for cultivation of yeast, mould and bacteria encountered in brewing and industrial fermentation processes.

#### Product Summary and Explanation

WL (Wallerstein Laboratory) nutrient media are formulated as described by Green and Gray<sup>(1,2)</sup> in their study of various fermentation processes. These media were developed as a result of an exhaustive study examining the methods of fermentation control procedures in worts, beers, liquid yeasts and similar fermentation products led to the development of these media. 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.<sup>(3)</sup> The medium can support the growth of bacteria, but unless the number of yeast cells is small the bacteria may not be detected. The WL Nutrient broth plate is incubated aerobically to obtain a total count of mainly yeast colonies. If desired Durhams tubes can be added to WL Nutrient Broth to study fermentation reactions.

#### Principles of the Procedure

WL Nutrient Broth contains yeast extract, which serves as a source of trace elements, vitamins and amino acids. Casein enzymic hydrolysate is used as a source of nitrogen, amino acids and carbon. Dextrose is the source of carbohydrate and energy. Monopotassium phosphate acts as a buffering agent. Potassium chloride, calcium chloride and ferric chloride are essential ions that help to maintain the osmotic balance of the medium. Magnesium sulphate and manganese sulphate are sources of divalent cations. Bromocresol green is a pH indicator.

#### Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	5.00
Yeast extract	4.00
Dextrose	50.00
Monopotassium phosphate	0.55
Potassium chloride	0.425
Calcium chloride	0.125
Magnesium sulphate	0.125
Ferric chloride	0.0025
Manganese sulphate	0.0025
Bromo cresol green	0.022
Final pH: 5.5 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

#### Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

#### Directions

1. Suspend 60.25 grams of the medium in one liter of distilled water.





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- Heat to boiling, to dissolve the medium completely.
- Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
- If desired, to obtain a pH of 6.5, add 1% solution of sodium bicarbonate.

### Quality Control Specifications

Dehydrated Appearance	Light yellow to light green homogeneous free flowing powder
Prepared Medium	Bluish green coloured very slightly opalescent solution in tubes.
Reaction of 6.02% Solution	pH : 5.5 ± 0.2 at 25°C
Gel Strength	Not Applicable

**Expected Cultural Response:** Cultural characteristics observed in tubes containing inverted Durham's tubes after an incubation at 35-37°C for 40-48 hours for bacteria and at 30-32°C upto 5 days for yeast.

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Acid	Gas
1.	<i>Escherichia coli ATCC 25922</i>	50 -100	fair-good	positive reaction, yellow colour	positive
2.	<i>Lactobacillus fermentum ATCC 9338</i>	50 -100	fair-good	positive reaction, yellow colour	slightly positive
3.	<i>Saccharomyces cerevisiae ATCC 9763</i>	50 -100	good-luxuriant	positive reaction, yellow colour	positive

The organisms listed are the minimum that should be used for quality control testing.

### Test Procedure

Refer appropriate references for specific test procedures.

### Results

Refer appropriate references and test procedures for interpretation of results.

### Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

### Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

### Limitations of the Procedure

- For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
- Consult appropriate texts for detailed information and recommended procedures.

### Packaging

Product Name : WL Nutrient Broth





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Product Code : DM289

Available Pack sizes : 100gm/ 500gm

### 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. .

### Further Information

For further information please contact your local MICROMASTER Representative.





**MICROMASTER LABORATORIES PRIVATE LIMITED**

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