WL NUTRIENT MEDIUM TM 487

For cultivation and isolation of microorganisms encountered in breweries and industrial fermentations

Composition

Ingredients	Gms/Ltr.
Dextrose	50.00
Agar	20.00
Casein enzymatic hydrolysate	5.00
Yeast extract	4.00
Monopotassium phosphate	0.550
Potassium chloride	0.425
Calcium chloride	0.125
Magnesium sulphate	0.125
Bromo cresol green	0.022
Ferric chloride	0.0025
Manganese sulphate	0.0025

***** Dehydrated powder, hygroscopic in nature, store in a dry place in tightly- sealed containers 25°C and protected from direct Sunlight.

Instructions for use

Dissolve 80.25gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (at 121°C) for 15 minutes. Observe the pH, if required to obtain 6.5 then add 1% solution of sodium bicarbonate. Cool to 45- 50^{0}C and dispense as desired.

Appearance: Bluish green colour, very slightly opalescent gel
pH (at 25°C): 5.5 ± 0.2

Principle

WL NUTRIENT MEDIUM is used for cultivation and isolation of microorganisms encountered in breweries and industrial fermentations. WL stands for (Wallerstein Laboratories) medium is formulated by Green and Gray. This culture media is used in fermentations, particularly the manufacturing of beer. At a pH of 5.5, counts of viable baker's yeast will grow on W-L Nutrient Medium. Medium contains Casein enzymatic hydrolysate which provides nitrogen, vitamins, minerals and amino acids essential for growth. Dextrose is the fermentable carbohydrate providing carbon and energy. Yeast extract is a source of vitamins, particularly of the B-group. Monopotassium phosphate is the buffer. Potassium, Calcium and Ferric chlorides all provide essential ions for the osmotic balance. Magnesium and Manganese sulphate is the source of divalent cations. Bromocresol purple is the pH indicator. Agar is a solidifying agent. Inoculate and incubate at a temperature of 30°C and observe after 24 – 48 hours. The incubation time and temperature are very important factors according to the type of yeast.

Interpretation

Cultural characteristics observed after inoculating (10^3CFU / ml), on incubation at 25 °C for 40 - 48 hours in case of beer and at 30°C for bakery and malt alcoholic yeasts. Petri plates are incubated for 2 – 10 days and up to 2 weeks, according to the flora present.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth
Escherichia coli	25922	10^3	Good
Proteus mirabilis	25933	10^3	Good
Saccharomyces cerevisiae	9763	10^3	-----
Saccharomyces uvarum	9080	10^3	-----

References

1. Green S. R. and Gray P. P. Wallerstein Lab. Commun., 12:43. (1950).
2. Green S. R. and Gray P. P., Wallerstein Lab. Commun., 13:357. (1950).
3. MacFaddin, Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md. (1985).
4. Green and Grey. Wallenstein, Lab. Comm. 13:357. Green and Grey. Wallenstein, Lab. Comm. 14:169, 1951. Applicable to bacteriological investigation in brewing Wallesstein Lab. Commus 13: 357. (1950).