Technical Information

WL Differential MiVeg Broth

Product Code : VM1410

Application:- WL Differential MiVeg Broth is recommended for selective isolation and enumeration of bacteria encountered in breweries and industrial fermentations.

Composition**

Ingredients	Gms / Litre
MiVeg 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
Actidione (Cycloheximide)	0.004
Final pH (at 25°C)	5.5 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

WL Differential MiVeg Broth is prepared by adding MiVeg hydrolysate instead of Casein enzymic hydrolysate thereby making the medium free from BSE/TSE risks. WL (Wallerstein Laboratory) MissVeg medium is the modification of WL (Wallerstein Laboratory) medium which was formulated as described by Green and Gray for the examination of materials encountered in brewing and in industrial fermentations with mixed flora of yeasts and bacteria (1). Enumeration of Baker's yeast can be done at pH 5.5, whereas enumeration of Baker's as well as distiller's yeast is done at pH 6.5. MiVeg hydrolysate, yeast extract and dextrose supplies all the essential growth nutrients required by the microorganisms. Monopotassium phosphate buffers the medium. Potassium chloride, calcium chloride and ferric chloride are essential ions that helps to maintain the osmotic balance of the medium. Magnesium sulphate and manganese suplhate are the sources of divalent cations. Bromo cresol green act as a pH indicator. Actidione (Cycloheximide) present in the medium suppresses growth of yeast and moulds in brewing samples, permitting the detection and enumeration of bacteria that may be present in small numbers. Determination of microbial count using this medium can be achieved by varying the time and temperature of incubation based on nature of material under testing. Temperatures of 25°C are employed for brewing materials while 30°C are employed for baker's yeast and alcohol fermentation mash analyses.

Methodology

Suspend 60.26 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If desired, to obtain a pH of 6.5, add 1% solution of sodium bicarbonate.

Warning : Cycloheximide is very toxic compound thus avoid any skin contact or aerosol formation and inhalation.

Quality Control

Physical Appearance

Greenish yellow coloured, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Bluish green coloured, clear solution in tubes .

Reaction

Reaction of 6.02 % w/v of aqueous solution is pH: 5.5 ± 0.2 at 25°C.

pH Range

5.3-5.7

Cultural Response/Characteristics

Cultural characteristics observed after incubation at 35°C for 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth
Escherichia coli (25922)	10^2-10^3	Luxuriant
Lactobacillus fermentum (9338)	10^2-10^3	Luxuriant
Proteus mirabilis (25933)	10^2-10^3	Luxuriant
Saccharomyces cerevisiae (9763)	10^2-10^3	Inhibited
Saccharomyces uvarum (9080)	10^2-10^3	Inhibited

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 day.

Further Reading

1. Green and Gray, 1950, Wallerstein Lab. Commun., 13:357.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
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