Dehydrated Culture Media
Bases / Media Supplements

# Technical Information

## R-2A MiVeg Agar

## Product Code : VM1962

**Application:-** R-2A MiVeg Agar is widely used for the heterotrophic plate count of treated potable water using longer incubation periods.

## Composition

| Ingredients | Gms / Litre |
|---|---|
| MiVeg acid hydrolysate | 0.5 |
| Yeast extract | 0.5 |
| MiVeg peptone No. 3 | 0.5 |
| Dextrose | 0.5 |
| Starch, soluble | 0.5 |
| Dipotassium phosphate | 0.3 |
| Magnesium sulphate | 0.024 |
| Sodium pyruvate | 0.3 |
| Agar | 15.0 |
| Final pH (at 25°C) | 7.2 ± 0.2 |

** Formula adjusted, standardized to suit performance parameters.

## Principle & Interpretation

R-2A MiVeg Agar is prepared by using vegetables peptones in place of animal based peptone thus making the medium free from BSE/TSE risks. R-2A MiVeg Agar is the modification of R-2A Agar which was formulated by Reasoner and Geldreich for the heterotrophic plate count of water samples (1). Plate Count Agar is recommended for the bacterial examination of potable water as it gives an estimate of the aerobic and facultatively anaerobic bacteria that grows best at 35°C on a rich medium (2). Chlorine tolerant bacteria and organisms under stress, in treated water samples multiply very slowly and are unable to grow under these conditions. Like conventional medium, this Agar is a less nutritioned medium thereby enabling better recovery of these bacteria from treated water under different incubation conditions (3).

MiVeg peptone No.3, MiVeg acid hydrolysate and yeast extract provide nitrogen, vitamins, amino acids, carbon and minerals. Dextrose act as an energy source of the medium. Soluble starch helps in the recovery of injured organisms by absorbing toxic metabolic byproducts and sodium pyruvate increases the recovery of stressed cells. Magnesium sulphate is a source of divalent cations and sulfate. Dipotassium phosphate buffers the medium.

## Methodology

Suspend 18.12 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. DO NOT OVERHEAT.

## Quality Control

**Physical Appearance**

Light yellow to yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

**Gelling**

Firm, comparable with 1.5% Agar gel.

**Colour and Clarity of prepared medium**

Light yellow coloured, clear to slightly opalescent gel forms in petri plates.

**Reaction**

Reaction of 1.81% w/v aqueous solution is pH 7.2 ± 0.2 at 25°C.

**pH Range**

7.0-7.4

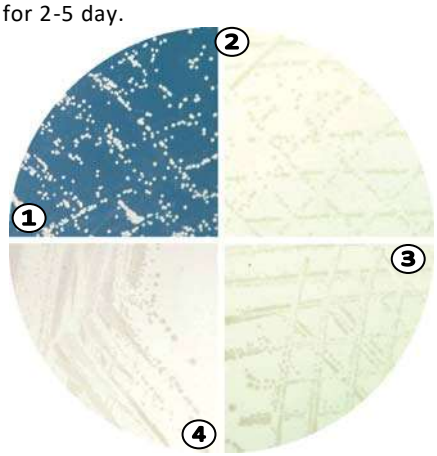
**Cultural Response/Characteristics**

Cultural characteristics observed after an incubation at 35-37°C for upto 7 days.

| Organisms (ATCC) | Inoculum (CFU) | Growth | Recovery |
|---|---|---|---|
| *Candida albicans* (10231) | $10^2$-$10^3$ | Good-luxuriant | >70% |
| *Enterococcus faecalis* (29212) | $10^2$-$10^3$ | Good-luxuriant | >70% |
| *Escherichia coli* (25922) | $10^2$-$10^3$ | Good-luxuriant | >70% |
| *Salmonella* serotype Enteritidis (13076) | $10^2$-$10^3$ | Good-luxuriant | >70% |
| *Salmonella* serotype Typhi (6539) | $10^2$-$10^3$ | Good-luxuriant | >70% |

## 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.




**VM1962 R-2A MiVeg Agar**

1. *Candida albicans* (against dark background)
2. *Escherichia coli*
3. *Salmonella* serotype Enteritidis
4. *Salmonella* serotype Typhi

## Further Reading

1. Reasoner and Geldreich, 1985, Appl. Environ. Microbiol., 49:1.
2. Collins and Willoughby, 1962, Arch. Microbiol., 43:294.
3. Eaton A.D., Clesceri L.S. and Greenberg A.E., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed, APHA, Washington DC.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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