

## Technical Information

### Sulphite MiVeg Agar

**Product Code : VM1311**

**Application:-** Sulphite MiVeg Agar is used for the detection of thermophilic sulphide producing anaerobic microorganisms.

### Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	10.00
Sodium sulphite	1.0
Agar	20.0
Final pH (at 25°C)	7.6 ± 0.2

\*\* Formula adjusted, standardized to suit performance parameters.

### Principle & Interpretation

Sulphite MiVeg Agar is prepared by adding MiVeg hydrolysate in place of Casein enzymic hydrolysate thereby making the medium free from BSE/TSE risks. Sulphite MiVeg Agar is the modification of Sulphite Agar which is prepared according to the formula described by Clark and Tanner (1) and is recommended by APHA (2) for detecting the thermophilic hydrogen sulphide producing anaerobic microorganisms.

MiVeg hydrolysate supplies nitrogenous compounds. Sodium sulphite is reduced and thus contribute in H<sub>2</sub>S production by the thermophilic anaerobic bacteria. Agar acts as solidifying agent. Iron nails or ferri citrate combines with dissolved oxygen in the medium and thereby maintains the anaerobic environment for the microorganisms. Incubation at high temperature (55°C) favours growth of thermophilic organisms. Blackening of medium is the indication of Sulphite reduction.

### Methodology

Suspend 31 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Dispense in screw capped tubes containing a clean iron nail in 15 ml amounts and cap the tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. As an alternate to iron nail, 10 ml of 5% ferric citrate solution may be used per litre of the medium.

### Quality Control

#### Physical Appearance

Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

#### Gelling

Firm, comparable with 2.0% Agar gel.

#### Colour and Clarity of prepared medium

Light amber coloured, clear to slightly opalescent gel forms in tubes.

#### Reaction

Reaction of 3.1% w/v aqueous solution is pH 7.6 ± 0.2 at 25°C.

#### pH Range

7.4 - 7.8

### Cultural Response/Characteristics

Cultural characteristics observed after an incubation at  $55 \pm 2^\circ\text{C}$  for 18-48 hours under anaerobic conditions.

Organisms (ATCC)	Inoculum (CFU)	Growth	Sulphide reduction
<i>Bacillus stearothermophilus</i> (10149)	30-100	good	–
<i>Clostridium thermosaccharolyticum</i> (7956)	30-100	good	+
<i>Desulfotomaculum nigrificans</i> (19858)	30-100	good	+

### Storage and Shelf Life

**Dried Media:** Store below  $30^\circ\text{C}$  in tightly closed container and use before expiry date as mentioned on the label.

**Prepared Media:**  $2-8^\circ$  in sealable plastic bags for 2-5 day.

### Further Reading

1. Clark and Tanner, 1937, Food Research, 2:27.
2. Marshall R. (Ed.) Standard Methods for the Examination of Dairy Products. 16<sup>th</sup> Edition, 1992 APHA, Washington, DC.

### Disclaimer :

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