

**Violet Red HiVeg™ Agar/w (1.2%) Agar**

**MV049/MV049A**

Violet Red HiVeg Agar is a selective media used for the isolation, detection and enumeration of coliform organisms from water, milk and other food products.

**Composition \*\* :**

| Ingredients               | MV049       | MV049A      |
|---------------------------|-------------|-------------|
|                           | Grams/Litre | Grams/Litre |
| HiVeg peptone             | 7.0         | 7.0         |
| Yeast extract             | 3.0         | 3.0         |
| Sodium chloride           | 5.0         | 5.0         |
| Synthetic detergent No. 1 | 1.5         | 1.5         |
| Lactose                   | 10.0        | 10.0        |
| Neutral red               | 0.03        | 0.03        |
| Crystal violet            | 0.002       | 0.002       |
| Agar                      | 15.0        | 12.0        |

Final pH (at 25°C ) 7.4 ± 0.2

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

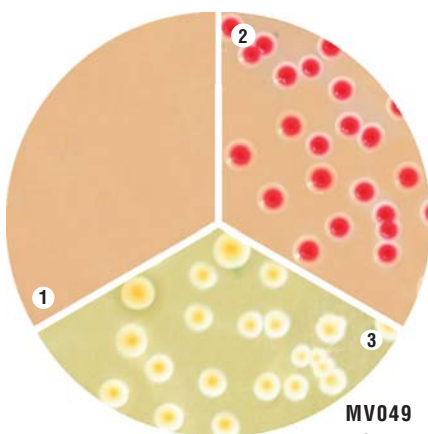
**Directions :**

Suspend 41.53 grams of MV049, 38.53 grams of MV049A in 1000 ml distilled water. Heat to boiling with stirring to dissolve the media completely. DO NOT AUTOCLAVE. If desired the media can be sterilized by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45°C and pour into sterile petri plates.

**Principle and Interpretation :**

Violet Red HiVeg Agar is prepared by completely replacing animal based peptones by vegetable peptones which makes the media free of BSE/TSE risks. Violet Red HiVeg Agar and Violet Red HiVeg Agar (1.2%) are the modification of Violet Red Bile Agar and Violet Red Bile Agar (1.2%) respectively recommended by APHA for the detection and enumeration of coliform organisms in water, milk, dairy and other food products (1,2,).

The media are selective due to the presence of the inhibitors - synthetic detergent No.1 and crystal violet. Crystal violet inhibits gram-positive microorganisms especially *Staphylococci*. Neutral red is the pH indicator. Organisms which rapidly ferment lactose will produce red colonies (3). Lactose non-fermenters and late lactose fermenters produce pale colonies. Other related gram-negative bacteria can be suppressed by incubation at >42°C



**MV049 Violet Red HiVeg Agar**

1. Control
2. *Escherichia coli*
3. *Salmonella* serotype Enteritidis

**Product Profile :**

| Vegetable based (Code MV) ©                                | Animal based (Code M)  |
|--|--|
| MV049/MV049A<br>HiVeg peptone<br>Synthetic detergent No. 1 | M049/M049A<br>Peptic digest of animal tissue<br>Bile salts mixture |

|                                       |   |   |
|---------------------------------------|---|---|
| <b>Recommended for</b>                | : | Detection and enumeration of coliform organisms from water and food.          |
| <b>Reconstitution</b>                 | : | (MV049) : 41.53 g/l<br>(MV049A) : 38.53 g/l                                   |
| <b>Quantity on preparation (100g)</b> | : | (MV049) : 2.40 L<br>(500g) : (MV049) : 12.03 L<br>(500g) : (MV049A) : 12.97 L |
| <b>pH (25°C)</b>                      | : | 7.4 ± 0.2   |
| <b>Supplement</b>                     | : | None  |
| <b>Sterilization</b>                  | : | Boiling or 121°C / 15 minutes, if desired                                     |
| <b>Storage</b>                        | : | Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.                             |

or by anaerobic incubation. An overlay method is helpful to improve the specificity of the medium. Incubation may be carried out at > 42°C for 18 hours, 32°C for 24-48 hours or 4°C for 10 days depending on the temperature characteristics of the organisms to be recovered (4).

**Quality Control :**

**Appearance of powder**

Pinkish beige coloured, homogeneous, free flowing powder.

**Gelling**

Firm, comparable with 1.5% Agar gel of M049 or 1.2% Agar gel of M049A.

**Colour and Clarity**

Reddish purple coloured, clear to slightly opalescent gel forms in petri plates.

**Reaction**

Reaction of 4.15% w/v of MV049 or 3.85% w/v of MV049A aqueous solution is pH 7.4 ± 0.2 at 25°C.

**Cultural Response**

Cultural characteristics observed after an incubation at 35-37°C for 18 - 24 hours.

| Organisms (ATCC)                               | Inoculum (CFU)                   | Growth    | Recovery | Colour of Colony |
|--|----------------------------------|-----------|----------|------------------|
| <i>Enterobacter aerogenes</i> (13048)          | 10 <sup>2</sup> -10 <sup>3</sup> | luxuriant | >50%     | pink             |
| <i>Escherichia coli</i> (25922)                | 10 <sup>2</sup> -10 <sup>3</sup> | luxuriant | >50%     | pinkish red      |
| <i>Salmonella</i> serotype Enteritidis (13076) | 10 <sup>2</sup> -10 <sup>3</sup> | luxuriant | >50%     | colourless       |
| <i>Staphylococcus aureus</i> (25923)           | 10 <sup>2</sup> -10 <sup>3</sup> | inhibited | 0%       | -                |

**References :**

1. Frances Pouch Downes and Keith Ito (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4<sup>th</sup> ed., APHA, Washington, D.C.
2. Standard Methods for the Examination of Dairy Products. 17<sup>th</sup> Edition, 2004 Edited by H. Michael Wehr and Joseph H.Frank.
3. Davis J.G., 1951, Milk Testing, Dairy Industries Limited, London; pg 131
4. Mossel D.A.A. and Vega C.L., 1973, Hlth. Lab. Sci., 11:303.