**Tetrathionate CV Enrichment Broth**

Tetrathionate CV Enrichment Broth is used for the selective enrichment of Salmonellae from meat and foodstuffs.

### Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>4.300</td>
</tr>
<tr>
<td>Peptic digest of animal tissue</td>
<td>4.300</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>6.400</td>
</tr>
<tr>
<td>Potassium tetrathionate</td>
<td>20.000</td>
</tr>
<tr>
<td>Crystal violet</td>
<td>0.005</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.5±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 35 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes. **DO NOT AUTOCLAVE.**

Note: The medium should be used on the day of preparation as the prepared medium is not stable.

### Principle And Interpretation

The examination of various types of food products for presence of *Salmonella* requires methods different from those used in clinical laboratories. The need for such methods is due to the generally low numbers of *Salmonella* in foods and the frequently poor physiological state of these pathogens following exposure to stressful conditions during food processing or storage. Tetrathionate CV Enrichment Broth is used for the selective enrichment and isolation of *Salmonella* from meat and foodstuffs.

Tetrathionate Broth Base was originally described by Mueller (1) and he found that the medium selectively inhibits coliforms and permits unrestricted growth of enteric pathogens.

Muellers medium was subsequently modified by Kauffman (2) and Knox (3) in which they obtained more number of isolates. Tetrathionate Crystal Violet Enrichment Broth is prepared as per the formulation described by Preuss (4) and is used for the selective enrichment of Salmonellae from meat and foodstuffs (5). It complies with the specifications prescribed in the German Meat Inspection Law (6).

Casein enzymic hydrolysate and peptic digest of animal tissue are the sources of carbon, nitrogen, vitamins and minerals. Sodium deoxycholate and brilliant green and crystal violet inhibit gram-positive organisms. Potassium tetrathionate acts as a selective agent. Sodium chloride maintains the osmotic balance of the medium. After enrichment of the sample, streak on the plates of Brilliant Green Agar (M016), MacConkey Agar (M081), Bismuth Sulphite Agar (M027) for further confirmation.

### Quality Control

**Appearance**

Cream to yellow may have purple tinge homogeneous free flowing powder

**Colour and Clarity of prepared medium**

Blue to light blue coloured clear solution without any precipitate

**Reaction**

Reaction of 3.5% w/v aqueous solution at 25°C: pH : 6.5±0.2

**pH**

6.30-6.70

**Cultural Response**

M1256: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours (Recovery is done on Brilliant Green Agar M016).
### Organism

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth on M016</th>
<th>Colour of colony</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>50-100</td>
<td>none-poor</td>
<td>yellowish green</td>
</tr>
<tr>
<td><em>Salmonella Typhimurium</em> ATCC 14028</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>pinkish white</td>
</tr>
<tr>
<td><em>Salmonella Enteritidis</em> ATCC 13076</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>pinkish white</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> ATCC 25923</td>
<td>&gt;=10³</td>
<td>inhibited</td>
<td></td>
</tr>
</tbody>
</table>

### Storage and Shelf Life

Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date on the label.

### Reference