Azide Dextrose Broth, Granulated

**Intended use**
Azide Dextrose Broth, Granulated is used for detection and enumeration of Streptococci in water, sewage, food and other materials suspected of sewage contamination.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone, special</td>
<td>15.000</td>
</tr>
<tr>
<td>HM peptone B #</td>
<td>4.500</td>
</tr>
<tr>
<td>Dextrose (Glucose)</td>
<td>7.500</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7.500</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>0.200</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>7.2±0.2</td>
</tr>
</tbody>
</table>

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

# Equivalent to Beef extract

**Directions**
Suspend 34.7 grams in 1000 ml distilled water for preparing single strength broth or use 69.4 grams in 1000 ml distilled water for double strength broth. Heat, if necessary, to ensure complete solution. Dispense in test tubes and sterilize by autoclaving at 118°C for 15 minutes.

**Principle And Interpretation**

Enterococci are more resistant to chlorine in water, hence are better indicators of sewage pollution than *Escherichia coli*. Until 1984, members of the genus *Enterococcus* were classified as Group D Streptococci. Upon genomic DNA analysis, a separate genus status was provided to them. (7). Azide Dextrose Broth is recommended by APHA for enumeration of faecal Streptococci by MPN technique. Azide Dextrose Broth was initially formulated by Rothe, Mullmann and Seligmann (2,3) for quantitative determination of Enterococci in water, sewage, foods and other materials suspected of contamination with sewage. When large volumes of water samples are to be examined, double strength medium is used. Turbidity in tubes indicates presence of Enterococci, however, it should be further confirmed by inoculation in Ethyl Violet Azide Broth (M426). Azide Dextrose Broth is a highly nutritious medium due to the presence of nutrient rich peptone special, HM peptone B and dextrose. Sodium azide inhibits growth of gram-negative bacteria, allowing Enterococci to grow (1,4,5). Streptococci detected by the above media should be further identified using chemicals (6).

**Type of specimen**
Food samples; Water and sewage samples

**Specimen Collection and Handling:**
For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (8,9,10).

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(11)

After use, contaminated materials must be sterilized by autoclaving before discarding.

**Warning and Precautions:**
Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets

**Limitations:**
Further biochemical tests must be carried out for confirmation.

**Performance and Evaluation**
Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Please refer disclaimer Overleaf.
**Quality Control**

**Appearance**
Cream to yellow homogeneous granular media

**Colour and Clarity of prepared medium**
Amber coloured clear solution without any precipitate.

**Reaction**
Reaction of 3.47% w/v aqueous solution at 25°C. pH : 7.2±0.2

**pH**
7.00-7.40

**Cultural Response**
M345: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>&gt;=10³</td>
<td>inhibited</td>
</tr>
<tr>
<td><em>Enterococcus faecalis</em> ATCC 50-100</td>
<td>29212</td>
<td>good-luxuriant</td>
</tr>
</tbody>
</table>

Key : *Corresponding WDCM numbers.

**Storage and Shelf Life**
Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Use before expiry date on the label.

Product performance is best if used within stated expiry period.

**Disposal**
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (12,13).

**Reference**

**Disclaimer**
User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory;diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.