Brilliant Green Bile Broth 2%

Intended Use
Brilliant Green Bile Broth 2% (Brilliant Green Lactose Bile Broth) is used for the detection of coliform organisms in foods, dairy products, water and wastewater, as well as in other materials of sanitary importance.

Summary and Explanation
Brilliant Green Bile Broth 2% is formulated according to the American Public Health Association (APHA) specifications for use in the confirmation of presumptive tests for coliforms.

Principles of the Procedure
Brilliant Green Bile Broth 2% contains two inhibitors of both gram-positive and selected gram-negative organisms; i.e., oxgall and brilliant green dye. Organisms, primarily coliforms, which are resistant to the action of the inhibitors and which ferment the lactose, are able to replicate in this medium. Fermentation is detected by gas production.

Formula
Difco™ Brilliant Green Bile Broth 2%

<table>
<thead>
<tr>
<th>Approximate Formula* Per Liter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone .................................................. 10.0 g</td>
</tr>
<tr>
<td>Oxgall .................................................... 20.0 g</td>
</tr>
<tr>
<td>Lactose .................................................... 10.0 g</td>
</tr>
<tr>
<td>Brilliant Green ......................... 13.3 mg</td>
</tr>
</tbody>
</table>

*Adjusted and/or supplemented as required to meet performance criteria.

Directions for Preparation from Dehydrated Product
1. Suspend 40 g of the powder in 1 L of purified water. Mix thoroughly.
2. Warm slightly to completely dissolve the powder.
3. Dispense into tubes containing inverted fermentation vials.
4. Autoclave at 121°C for 15 minutes. Cool the broth as quickly as possible.
5. Test samples of the finished product for performance using stable, typical control cultures.

Procedure
For the detailed procedures for use of this medium in confirmatory testing for coliforms, refer to the various compendia for the examination of materials of sanitary importance.1-5

Expected Results
Gas production within 48 ± 3 hours is considered positive evidence of fermentation by coliform bacilli. Detailed results for the enumeration of coliforms using Brilliant Green Bile Broth 2% are discussed in the various compendia of methods for microbiological examination of foods, dairy products and water and wastewater.1-5

User Quality Control
Identity Specifications
Difco™ Brilliant Green Bile Broth 2%
Dehydrated Appearance: Beige to greenish-beige, free-flowing, homogeneous.
Solution: 4.0% solution, soluble in purified water. Solution is emerald green, clear.
Prepared Appearance: Emerald green, clear.
Reaction of 4.0% Solution at 25°C: pH 7.2 ± 0.2

Cultural Response
Difco™ Brilliant Green Bile Broth 2%
Prepare the medium per label directions. Inoculate and incubate at 35 ± 2°C for 48 hours.

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>INOCULUM CFU</th>
<th>RECOVERY</th>
<th>GAS PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterobacter aerogenes</td>
<td>13/48</td>
<td>10²-10³</td>
<td>Good +</td>
</tr>
<tr>
<td>Enterococcus faecalis</td>
<td>19/433</td>
<td>10²-2×10³</td>
<td>Partial to complete inhibition –</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>25/922</td>
<td>10²-10³</td>
<td>Good +</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>25/923</td>
<td>10²-2×10³</td>
<td>Marked to complete inhibition –</td>
</tr>
</tbody>
</table>
References

Availability
Difco™ Brilliant Green Bile Broth 2%
AOAC  BAM  CCAM  COMPF  EPA  ISO  SMD  SMWW
Cat. No.  273000  Dehydrated – 100 g
          274000  Dehydrated – 500 g
          271000  Dehydrated – 2 kg

BBL™ Brilliant Green Bile Broth, 2%
AOAC  BAM  CCAM  COMPF  EPA  ISO  SMD  SMWW
Cat. No.  221612  Prepared Tubes with Durham Tube – Pkg. of 10*
*Store at 2-8°C.