

# 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)<sup>1</sup> 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%

Approximate Formula\* Per Liter

Peptone .....	10.0	g
Oxgall .....	20.0	g
Lactose .....	10.0	g
Brilliant Green .....	13.3	mg

\*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.<sup>1-5</sup>

## 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.<sup>1-5</sup>

## 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.

ORGANISM	ATCC™	INOCULUM CFU	RECOVERY	GAS PRODUCTION
<i>Enterobacter aerogenes</i>	13048	10 <sup>2</sup> -10 <sup>3</sup>	Good	+
<i>Enterococcus faecalis</i>	19433	10 <sup>3</sup> -2 × 10 <sup>3</sup>	Partial to complete inhibition	–
<i>Escherichia coli</i>	25922	10 <sup>2</sup> -10 <sup>3</sup>	Good	+
<i>Staphylococcus aureus</i>	25923	10 <sup>3</sup> -2 × 10 <sup>3</sup>	Marked to complete inhibition	–



## References

1. Eaton, Rice and Baird (ed.). 2005. Standard methods for the examination of water and wastewater, 21st ed., online. American Public Health Association, Washington, D.C.
2. Wehr and Frank (ed.). 2004. Standard methods for the examination of dairy products, 17th ed. American Public Health Association, Washington, D.C.
3. U.S. Food and Drug Administration. 2001. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.
4. Horwitz (ed.). 2007. Official methods of analysis of AOAC International, 18th ed., online. AOAC International, Gaithersburg, Md.
5. Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.

## 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*
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\*Store at 2-8°C.