

Brilliant Green Bile Broth 2%

Intended Use

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

Summary

Brilliant Green Bile Broth 2% is formulated as per American Public Health Association specifications for use in presumptive identification and confirmation of coliforms. It is included in the Bacteriological Analytical Manual for food testing.

Principle

Peptone provides the essential nutrients. Lactose is the fermentable carbohydrate. Oxgall and brilliant green inhibit most of the Gram-positive organisms including lactose fermenting *Clostridia* and selected Gram-negative organisms, Coliforms, which are resistant to the action of inhibitors and which ferment lactose, can replicate in this medium. Fermentation is detected by gas production and is seen as bubbles in the inverted Durham's tubes. Production of gas in the inverted Durham's tube indicates presence of faecal coliforms, since non-faecal coliforms growing in this medium do not produce gas.

Formula*

Ingredients	g/L
Oxgall	20.0
Lactose	10.0
Brilliant Green	0.0133
Peptone	10.0
Final pH (at 25°C)	7.2 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen

Food and dairy samples
Water samples

Specimen Collection and Handling

Ensure that all samples are properly labelled.

Follow appropriate techniques for handling samples as per established guidelines.

Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.

The samples must be stored and tested within the permissible time duration.

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

Directions

1. Suspend 40.01 g of the powder in 1000 mL purified / distilled water and mix well.
2. Warm slightly to dissolve the powder completely.
3. Dispense into tubes containing inverted Durham's tubes.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. For preparation of double strength, it is recommended to heat the dissolved broth(80.02 g/L) at 100°C for 30 minutes.

Quality Control

Dehydrated Appearance: Beige to greenish-beige, homogeneous, free flowing powder.

Prepared Appearance: Emerald green coloured, clear solution without any precipitate.

Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP and growth is observed after an incubation at 30°C-35°C for 18-48 hours.

Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time, inoculating ≤ 100 cfu (at 30°C-35°C for 18 hours).

Inhibitory Properties: No growth of the test microorganism occurs for the specified temperature and the longest period of time specified inoculating >100 cfu (at 30°C-35°C for ≥ 48 hours).

Organisms (ATCC)	Growth	Gas
<i>Klebsiella aerogenes</i> (13048)	Good	+
<i>Escherichia coli</i> (8739)	Good	+
<i>Escherichia coli</i> (25922)	Good	+
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> (6538)	Inhibited	-
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> (25923)	Inhibited	-
<i>Enterococcus faecalis</i> (29212)	Inhibited	-

Interpretation of Results

1. The medium becomes turbid and yellowish green in colour when bacterial growth occurs, and when accompanied by
2. copious gas formation, it is presumptive of the presence of coli-aerogenes organisms.
3. Turbidity and gas production in the Brilliant Green Bile Broth 2% incubated at 44°C is indicative of a positive test for *E. coli*. To confirm the presence of *E. coli*, carry out indole production test at 44°C in Tryptone water.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions/Limitations

1. Do not autoclave double strength broth.
2. Gram-positive spore forming organism may produce gas to give a false positive reaction if the bile / brilliant green inhibition is compromised by the food material.
3. Turbidity alone is not a positive test for coliforms.
4. It may be necessary to invert the tube prior to inoculation if bubbles are trapped in the Durham's tube.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Downes and Ito (ed.) 2001, Compendium Of Methods for The Microbiological Examination of Foods, 4th edition, APHA Washington DC.
2. Greenberg AE; Clesceri LS and Eaton AD (Eds), 1998, Std Methods for The Examination of Water and Wastewater, 20th edition, APHA, Washington, DC.
3. US Food and Drug Adm; 1998, Bacteriological Analytical Manual, 8th edition; Rev. A, AOAC, International, Gaithersburg, Md.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201020320100	Dehydrated Culture Media	100 g
201020320500	Dehydrated Culture Media	500 g

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
