



PRODUCT SPECIFICATION SHEET

Brilliant Green Bile Agar (DM045)

Intended Use

Brilliant Green Bile Agar (DM045) is recommended for enumeration of coliforms in water, sewage and foods.

Product Summary and Explanation

Noble and Tonney described Brilliant Green Bile Agar for determining the relative density of coliform bacteria in water and sewage and enumeration of coliform bacteria from materials of sanitary importance. The medium is particularly useful in selectively isolating *Salmonella* spp. from other coliform bacteria.⁽¹⁾ Subsequently APHA approved the medium for the estimation of coliforms in test samples of various materials.^(2, 3)

Principles of the Procedure

Brilliant Green Bile Agar contains peptic digest of animal tissue as a source of carbon, nitrogen, vitamins and minerals. Lactose is a fermentable carbohydrate and energy source. Combination of brilliant green and oxgall, which is highly selective for coliforms, helps to inhibit gram-positive bacteria and most gram-negative bacteria except coliforms. Monopotassium phosphate is a buffering agent. Basic fuchsin and erioglaucine together forms a pH indicating system. Differentiation of the coliforms is based on fermentation of lactose. Bacteria that ferment lactose produce acid and, in the presence of basic fuchsin, form deep red colonies with a pink halo. Bacteria that do not ferment lactose form colorless to faint pink colonies. Coliform bacteria typically ferment lactose, producing deep red colonies, while *Salmonella* spp., which do not ferment lactose, produce colorless to faint pink colonies.

Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	8.25
Lactose	1.90
Sodium sulphite	0.205
Ferric chloride	0.0295
Monopotassium phosphate	0.0153
Erioglaucine	0.0649
Basic fuchsin	0.0776
Oxgall	0.00295
Brilliant green	0.0000295
Agar	10.15
Final pH: 6.9 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.
3. Basic fuchsin is a potential carcinogen and care should be taken to avoid inhalation of the powdered dye and contamination of the skin.

Directions

1. Suspend 20.7 grams of the medium in one liter of distilled water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Mix well and pour into sterile petri plates.
5. For plating 10 ml quantities of water samples, prepare the medium in double strength.





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QualityControl Specifications

Dehydrated Appearance	Pinkish purple to light purple homogeneous free flowing powder
Prepared Medium	Bluish purple coloured, slightly opalescent gel forms in Petri plate
Reaction of 2.07% solution	pH 6.9 \pm 0.2 at 25°C
Gel Strength	Firm, comparable with 1.0% Agar gel

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

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of colony
1.	<i>Escherichia coli ATCC 25922</i>	50-100	good-luxuriant	\geq 50%	deep red (may have bile precipitate)
2.	<i>Enterobacter aerogenes ATCC 13048</i>	50-100	good-luxuriant	\geq 50%	pink
3.	<i>Salmonella Enteritidis ATCC 13076</i>	50-100	good-luxuriant	\geq 50%	colourless to light pink
4.	<i>Staphylococcus aureus ATCC 25923</i>	\geq 10 ³	inhibited	0%	--

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references and standard test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. The medium is sensitive to light; particularly direct sunlight, which produces a decrease in the productivity of the medium and a change in color from deep blue to purple or red. The medium should be prepared just prior to use and, when necessary to store the medium, it should be kept in the dark.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Brilliant Green Bile Agar

Product Code : DM045

Available Pack sizes : 100gm/500gm

References

1. Noble and Tonney, 1935, J. Am. Waterworks Assoc., 27:108.





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- Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
- Greenberg A. E., Eaton A. D., and Clesceri L. S., (Eds.), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., APHA, Washington, D.C.

Further Information

For further information please contact your local MICROMASTER Representative.



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