

# Brilliant-green 2 %-Bile Broth

## BRILA-Broth

For the selective enrichment and enumeration of *Escherichia coli* and other faecal coliform organisms in water, milk, foodstuffs and other materials by determining the coli titre or by the MPN method.

This culture medium complies with the recommendations of the International Dairy Federation (Internationaler Milchwirtschaftsverband) (FIL-IDF) (1985), the Standard Methods for Examination of Water and Wastewater (1998), the International Organization for Standardization (ISO) (1979) and the DIN Norm 10172.

### Mode of Action

Bile and brilliant green almost completely inhibit the growth of the undesired microbial flora including lactose-degrading clostridia (e.g. *Cl. perfringens*) (MACKENZIE et al. 1948). The fermentation of lactose with gas formation indicates the presence of *E. coli* and other faecal coliform organisms and is established by using DURHAM tubes. Other non-faecal coliform bacterial also grow in this medium but mostly do not produce any gas.

### Typical Composition (g/litre)

Peptone 10.0; lactose 10.0; ox bile, dried 20.0; brilliant green 0.0133.

### Preparation

Suspend 40 g/litre, fill into test tubes fitted with DURHAM tubes, autoclave (15 min at 121°C).

pH: 7.2 ± 0.2 at 25 °C.

The prepared broth is clear and green.

### Experimental Procedure and Evaluation

Inoculate the tubes.

Incubation: 24-48 hours at 35 °C or at the specified temperature (aerobically).

The *E. coli* titre refers to the smallest volume of sample material in which gas formation can be detected. Differentiation of the culture should also be performed to confirm the results obtained.

### Literature

American Public Health Association, American Water Works Association and Water Pollution Control Federation: Standard Methods for the Examination of Water and Wastewater, 18<sup>th</sup> ed. Washington, 1992.

DIN Deutsches Institut für Normung e.V.: Mikrobiologische Milchuntersuchung. Bestimmung der coliformen Keime. Referenzverfahren. - **DIN 10172**.

Internationaler Milchwirtschaftsverband: Zählung coliformer Bakterien in Milch und Milchprodukten. **Internationaler Standard FIL-IDF, 73** (1985).

International Organization for Standardization: Meat and meat products - Detection and enumeration of presumptive coliform bacteria and presumptive *Escherichia coli* (Reference method). - **International Standard ISO/DIS 3811** (1979).

MACKENZIE, E.F.W., TAYLOR, W.E., a. GILBERT, W.E.: Recent experiments in the rapid identification of *Bacterium coli* type I. - *J. Gen. Microbiol.*, 2; 197-204 (1948).

### Ordering Information

Product	Merck Cat. No.	Pack size
Brilliant-green 2 %-Bile Broth	1.05454.0500	500 g

### Quality control

Test strains	Incubation Temperature	Growth	Gas
<i>Escherichia coli</i> ATCC 25922	35 °C	+	+
<i>Escherichia coli</i> ATCC 25922	44 °C	+	+
<i>Escherichia coli</i> ATCC 11775	35 °C	+	+
<i>Escherichia coli</i> ATCC 11775	44 °C	+	+
<i>Citrobacter freundii</i> ATCC 8090	35 °C	+	+
<i>Citrobacter freundii</i> ATCC 8090	44 °C	poor	none / poor
<i>Staphylococcus aureus</i> ATCC 6538-P		inhibited	-
<i>Micrococcus luteus</i> ATCC 10240		inhibited	-
<i>Bacillus cereus</i> ATCC 11778		inhibited	-
<i>Lactobacillus plantarum</i> ATCC 8014		inhibited	-