

## Technical Data Sheet

### Tryptone Glucose Extract Broth (TGE) – 2mL Liquid Media Ampoules Cat. No. MHA000P2T

This medium is recommended for total heterotrophic microorganism detection in water and other liquid samples.

#### Mode of Action

Tryptone Glucose Extract Broth (TGE) is a non-selective nutrient medium and used to detect total heterotrophic microorganisms in water, dairy products, and other products like beer, bottled water, cider, soft drinks, and wine samples by membrane filtration technique. It is used where inhibitors are not present. TGE is used as a standard medium for the bacteriological plate count and can also be used for the detection of thermophilic bacteria in milk and dairy products. Tryptone and beef extract provides nitrogenous and carbonaceous compounds, long chain amino acids, vitamin B complex and other essential growth nutrients. Dextrose is the energy source.

#### Typical Composition (per liter of purified water)

|              |        |
|--------------|--------|
| Beef Extract | 6.0 g  |
| Tryptone     | 10.0 g |
| Dextrose     | 2.0 g  |

#### Application

1. Collect the water (or other liquid) sample in a sterile container. Sodium thiosulfate is necessary when the water sample contains a residual disinfectant. The sample should be a 100 ml minimum. When high levels of bacteria are expected, the sample will need to be diluted.
2. Invert one TGE Broth ampoule 2 to 3 times. Open the ampoule. Remove the lid of a petri dish and carefully pour the contents equally onto the absorbent pad.
3. Set up the membrane filtration apparatus. Use sterile forceps to put the membrane filter in the assembly. The grid side is up.
4. Invert the sample / diluted sample for approximately 30 seconds to thoroughly mix the sample.
5. Pour the sample / diluted sample into the funnel. If the volume is less than 20ml, add 10 ml of sterile buffered dilution water to the funnel.
6. Apply the vacuum until the funnel is empty. Then stop the vacuum.
7. Rinse the funnel with 20ml to 30ml of sterile buffered dilution water. Apply the vacuum. Rinse the funnel two more times.
8. Stop the vacuum when the funnel is empty. Remove the funnel from the assembly. Use sterile forceps to lift the membrane filter.
9. Put the membrane filter on the absorbent pad. Let the membrane filter bend and fall equally across the absorbent pad to make sure that the air bubbles are not trapped below the filter.
10. Secure the lid on the petri dish and invert the dish.
11. Incubate the inverted petri dish for 24 - 48 hours (48 hours is recommended) at 35 +/- 0.5° C.
12. Remove the petri dish from the incubator. Use a microscope to count the number of bacteria colonies on the membrane filter.
13. Interpret and report the results.

#### Results Reporting

Report the colony density as the number of colonies in 100ml of sample. If there's more than 200 colonies, dilute the sample and use the diluted sample in the test procedure.

Colonies in 100ml = Colonies counted / ml of sample x 100.

#### Storage and Shelf Life

The product can be used until the expiry date if the unopened ampoules are stored sealed in the aluminum foil bag at 2 – 10°C.

### Disposal

Please dispose of used culture medium in accordance with local regulations (e.g. autoclave for 20 min at 121 °C, disinfect, incinerate etc.).

### Quality Control

| Function     | Control Strains                               | Incubation                        | Reference Medium                                                               | Method of Control | Expected Results                                   |
|--------------|-----------------------------------------------|-----------------------------------|--------------------------------------------------------------------------------|-------------------|----------------------------------------------------|
| Productivity | Escherichia coli<br>ATCC® 25922<br>WDCM 00013 | 24 - 48 hours at<br>35 +/- 0.5° C | Previously<br>validated batch<br>of Tryptone<br>Glucose Extract<br>(TGE) Broth | Quantitative      | Recovery 85-<br>115%<br>Characteristic<br>colonies |

Please refer to the actual batch specific certificate of analysis.

Escherichia coli colonies are clear to creamy white, some may produce pigment.



**Tryptone Glucose Extract (TGE) Broth**

### Ordering Information

| Product                              | Cat. No.  | Pack size                  |
|--------------------------------------|-----------|----------------------------|
| Tryptone Glucose Extract (TGE) Broth | MHA000P2T | 50 x 2 mL plastic ampoules |

### Literature

Walter, William G (1961): Standard methods for the examination of water and wastewater. American Public Health Association.

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