



Technical Data

Fluid Thioglycollate medium (Thioglycollate medium Fluid)

M009

Intended use

Fluid Thioglycollate medium is used for sterility testing of biologicals and for cultivation of anaerobes, aerobes and microaerophiles from pharmaceutical and clinical samples.

Composition**

| Ingredients | Gms / Litre |
|-----------------------|-------------|
| Tryptone | 15.000 |
| Yeast extract | 5.000 |
| Dextrose (Glucose) | 5.500 |
| Sodium chloride | 2.500 |
| L-Cystine | 0.500 |
| Sodium thioglycollate | 0.500 |
| Resazurin sodium | 0.001 |
| Agar | 0.750 |
| Final pH (at 25°C) | 7.1±0.2 |

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 29.75 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 25°C and store in a cool dark place preferably below 25°C.

Note : If more than the upper one-third of the medium has acquired a pink colour, the medium may be restored once by heating in a water bath or in free flowing steam until the pink colour disappears.

Principle And Interpretation

Brewer (1) formulated Fluid Thioglycollate Medium for rapid cultivation of aerobes as well as anaerobes including microaerophiles by adding a reducing agent and small amount of agar. The USP (12), BP (2), EP (3) and AOAC (13) have recommended the media for sterility testing of antibiotics, biologicals and foods and for determining the phenol coefficient and sporicidal effect of disinfectants. However, it is intended for the examination of clear liquid or water-soluble materials. Fluid Thioglycollate Medium is also routinely used to check the sterility of stored blood in blood banks (10).

Dextrose, tryptone, yeast extract, L-cystine provide the growth factors necessary for bacterial multiplication. L-cystine and sodium thioglycollate allows *Clostridium* to grow in this medium even under aerobic conditions(11). Also the small amount of agar used in the medium favors the growth of aerobes as well as anaerobes in the medium, even if sodium thioglycollate is deleted from the medium(1). Sodium thioglycollate act as a reducing agent and neutralizes the toxic effects of mercurial preservatives and peroxides formed in the medium, thereby promoting anaerobiosis, and making the medium suitable to test materials containing heavy metals. (4,7). Any increase in the oxygen content is indicated by a colour change of redox indicator, resazurin to red (8,9,10). The small amount of agar helps in maintaining low redox potential for stabilizing the medium (7).

Type of specimen

Pharmaceutical samples for sterility testing, clinical samples- blood samples.

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6).

For pharmaceutical samples, follow appropriate techniques for sample collection, processing as per guidelines (2,3,12)

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

Warning and Precautions

In Vitro diagnostic Use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1.It is intended for the examination of clear liquid or water-soluble materials.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light straw coloured, clear to slightly opalescent solution with upper 10% or less medium pink on standing.

Reaction

Reaction of 2.97% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH

6.90-7.30

Cultural Response

Cultural characteristics observed after an incubation at 30-35°C for not more than 3 days.

Cultural Response

| Organism | Inoculum (CFU) | Growth |
|---|----------------|-----------|
| <i>Clostridium sporogenes</i> ATCC 19404 (00008*) | 50 -100 | luxuriant |
| <i>Clostridium sporogenes</i> ATCC 11437 | 50 -100 | luxuriant |
| <i>Clostridium perfringens</i> ATCC 13124 (00007*) | 50 -100 | luxuriant |
| <i>Bacteroides fragilis</i> ATCC 23745 | 50 -100 | luxuriant |
| <i>Bacteroides vulgatus</i> ATCC 8482 | 50 -100 | luxuriant |
| <i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*) | 50 -100 | luxuriant |
| <i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 6538 (00032*) | 50 -100 | luxuriant |
| <i>Pseudomonas aeruginosa</i> ATCC 27853 (00025*) | 50 -100 | luxuriant |
| <i>Pseudomonas aeruginosa</i> ATCC 9027 (00026*) | 50 -100 | luxuriant |
| <i>Micrococcus luteus</i> ATCC 9341 | 50 -100 | luxuriant |
| <i>Streptococcus pneumoniae</i> ATCC 6305 | 50 -100 | luxuriant |
| <i>Escherichia coli</i> ATCC 25922 (00013*) | 50 -100 | luxuriant |
| <i>Escherichia coli</i> ATCC 8739 (00012*) | 50 -100 | luxuriant |

| | | |
|---|---------|-----------|
| <i>Escherichia coli</i> NCTC 9002 | 50 -100 | luxuriant |
| <i>Salmonella Typhimurium</i> ATCC 14028 (00031*) | 50 -100 | luxuriant |
| <i>Salmonella Abony</i> NCTC 6017 (00029*) | 50 -100 | luxuriant |
| <i>Bacillus subtilis subsp.</i> <i>spizizenii</i> ATCC 6633 (00003*) | 50 -100 | luxuriant |

Key : * Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

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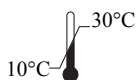
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In vitro diagnostic medical device



CE Marking



Storage temperature



Do not use if package is damaged



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