FLUID THIOGLYCOLLATE MEDIUM (as per USP/EP/BP/JP) TM 318

INTENDED USE

For sterility testing of biologicals and for cultivation of aerobes, anaerobes and microaerophiles.

COMPOSITION

Ingredients	Gms/Ltr.
Tryptone	15.000
Dextrose	5.500
Yeast extract	5.000
Sodium chloride	2.500
Agar	0.750
L-Cystine	0.500
Sodium thioglycollate	0.500
Resazurin sodium	0.001

PRODUCT SUMMARY AND EXPLANATION

Brewer 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. This medium is prepared according to the formula specified in the US Pharmacopoeia for the performance of sterility tests, and conforms to formulations detailed in the British, European and Japanese Pharmacopoeia. It is also recommended by the American Public Health Association (APHA) and Food and Drug Administration (FDA) in the Bacteriological Analytical Manual Online. The medium is recommended 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. Fluid Thioglycollate Medium is also widely used as an enrichment medium in clinical microbiology, especially for specimens from primarily sterile body sites.

PRINCIPLE

Dextrose, Tryptone and yeast extract, provide the growth factors necessary for bacterial multiplication. Sodium thioglycollate and L-cystine 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. The small

amount of agar used in the medium favors the growth of aerobes as well as anaerobes in the medium and also helps in maintaining low redox potential for stabilizing the medium. Any increase in the oxygen content is indicated by a colour change of redox indicator, resazurin to red.

INSTRUCTION FOR USE

1. Dissolve 29.75 grams in 1000 ml distilled water.
2. Gently heat to boiling to dissolve the medium completely.
3. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
4. 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.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder: Cream to yellow colour, homogeneous free flowing powder

Appearance of prepared medium: Light straw colour, clear to slightly opalescent solution with upper 10% or less medium pink on standing

pH (at 25°C): 7.1 ± 0.2

INTERPRETATION:

Cultural characteristics observed after incubation at: **i)** Bacterial species at 30-35°C for 18-48 hours, ii**)** *Clostridium* species anaerobically and **iii)** Fungal species at 20-25°C for 2-5 days.

Microorganisms	ATCC	Inoculum (CFU)	Growth
Bacillus subtilis	6633	50-100	Luxuriant
Staphylococcus aureus	25923	50-100	Luxuriant
Escherichia coli	25922	50-100	Luxuriant
Clostridium sporogenes	19404	50-100	Luxuriant
Clostridium perfringens	13124	50-100	Luxuriant
Candida albicans	10231	50-100	Luxuriant
Streptococcus pyogenes	19615	50-100	Luxuriant
Pseudomonas aeruginosa	27853	50-100	Luxuriant

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

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NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.