TM 1684 – FLUID TETRATHIONATE MEDIUM (as per USP)

INTENDED USE

An enrichment medium for isolation of Salmonellae from samples contaminated with Salmonellae.

PRODUCT SUMMARY AND EXPLANATION

Fluid Tetrathionate Medium was originally described by Mueller and found that the medium selectively inhibits coliforms and permit unrestricted growth of enteric pathogens. The medium is now formulated according to FDA, United States Pharmacopoeia, 2009, Compendium of Microbiological Examination of Foods and Standard Methods for the Examination of Water and Wastewater which specify this medium as enrichment medium for *Salmonella* species. *Salmonella* is the common causative agent of mild gastroenteritis to typhoid. It is common contaminant in food and other biological products. This medium supports the rejuvenation of *Salmonella* cells injured by food processing which are incapable of forming colonies on plate, but on injection can cause infection. This medium is recommended by USP for microbial limit tests for pharmaceutical preparations.

COMPOSITION

Ingredients	Gms / Ltr
Pancreatic digest of casein	2.500
Peptic digest of animal tissue	2.500
Bile salts	1.000
Calcium carbonate	10.000
Sodium thiosulphate	30.000

PRINCIPLE

The medium consists of Pancreatic digest of casein and peptic digest of animal tissues which supplies essential nutrients and vitamins in this medium. Calcium carbonate neutralizes the acidic tetrathionate decomposition products. Sodium chloride maintains osmotic balance. Bile salts inhibit gram-positive microorganisms. The selectivity depends on the ability of thiosulphate and tetrathionate (formed by addition of Iodine and Potassium iodide) in combination to suppress commensal coliform organisms. Sodium thiosulphates are also inactivators of halogens and can minimize its toxicity in the testing sample, if any during microbial limit tests.

INSTRUCTION FOR USE

- Dissolve 46.0 grams in 970 ml distilled water and heat just to boiling. DO NOT AUTOCLAVE.
- Cool to 45-50°C. On the day of use add 20 ml iodine solution (iodine - 6 grams and potassium iodide - 5 grams in 20 ml distilled water) and 10 ml of 0.1% brilliant green solution.
- Mix well and dispense in 10 ml quantities. Do not heat after the addition of iodine solution. Use the medium immediately after addition of iodine.
  Note: Due to presence of calcium carbonate, the prepared medium forms opalescent solution with a white precipitate.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : White to cream homogeneous free flowing powder.

Appearance of prepared medium : Complete medium with added brilliant green and iodine solution - Light green coloured opalescent solution with white precipitate, on standing the precipitate settles down.

pH (at 25°C) : 5.6 ± 0.2

INTERPRETATION

Cultural characteristics observed with added brilliant green and iodine solution, after an incubation, when sub cultured on MacConkey Agar after enrichment in Tetrathionate medium.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Incubation Temperature	Incubation Period
Salmonella Typhimurium	14028	50-100	Good-luxuriant	Colourless	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	Colourless	35-37°C	18-24 Hours
Escherichia coli	8739	50-100	Little or no increase in numbers	White to pink with bile precipitate	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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6. Pollock M.R. and Knor R., 1943, Biochem J., 37:476.
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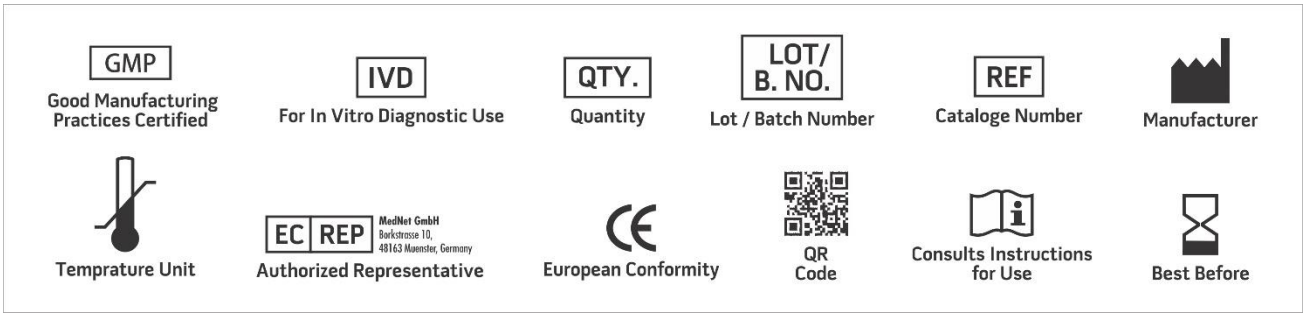

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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