

PRODUCT CODE: 413912

Thioglycollate Liquid Medium (Ph. Eur. USP, ISO 7937)(Dehydrated Culture Media) for microbiology

Preparation

Suspend 29.3 grams of the medium in one litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes. Cool to room temperature (25°C). If the stored medium exhibits more than 20% pink colour (due to oxidation), the tubes should be reheated in a water bath to expel the oxygen. Do not reheat more than once. The prepared medium should be stored at 2-8°C.

The colour is clear amber with a pink upper layer. The dehydrated medium should be homogeneous, free-flowing and light beige in colour. If there are any physical changes, discard the medium.

Uses

THIOGLYCOLLATE MEDIUM (U.S.P) (ISO 7937) is prepared according to the American Pharmacopoeia to perform sterility testing of pharmaceutical products and other devices. This medium is excellent for the cultivation of aerobic and anaerobic microorganisms without the need for an anaerobic jar or paraffin, or a special seal. It is well buffered so that acid or alkaline inocula will hardly alter the reaction of the medium. Thioglycollate Medium is also recommended for the cultivation of *Clostridium* and *Desulfotomaculum nigrificans*.

Sodium thioglycollate in the medium neutralizes the bacteriostatic effect produced by mercurial compounds used as preservatives in pharmaceutical solutions, making Thioglycollate Media useful in testing material which contain heavy metals. It is necessary to establish the bacteriostatic activity of the product by the method described in the USP (1970) in order to avoid false negative results.

The small quantity of agar assists in the detection of contaminants during sterility testing as it delays the dispersion of CO₂, diffusion of O₂ and reducing substances. The Nitrogen source is provided by the Enzymatic Digest of Casein and the vitamins by the Yeast extract. Sodium thioglycollate and L-Cystine lower the oxidation-reduction potential of the medium by removing the O₂ to maintain a low Eh, therefore preventing the accumulation of peroxides which can be toxic to some organisms. Resazurin is an indicator of oxidation by turning pink. Dextrose is the fermentable carbohydrate providing carbon and energy. Sodium chloride supplies essential electrolytes for transport and osmotic balance. The medium is used in liquid form in test tubes or as a slanted solid with added agar (1.5%). The medium or slant agar tube can be inoculated directly and incubated at 35 ± 2°C for 18 - 24 hours.

The medium is recommended by the ISO normative 7937 for the enumeration of *Clostridium perfringens* using the colony count technique. Before using the tubes, they should be left to air. Incubate under anaerobic conditions at 37°C for 18-24 hours. The turbidity should be 1-2 F.T.U.

Composition

See in Data Sheet (TDS).

Microbiological Test

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 30°C and observed after 3 - 7 days.

Microorganism	Growth
<i>Bacillus subtilis</i> ATCC 6633	Good
<i>Candida albicans</i> ATCC 10231	Good
<i>Clostridium sporogenes</i> ATCC 11437	Good
* <i>Clostridium perfringens</i> ATCC 13124	Good
<i>Streptococcus pyogenes</i> ATCC 19615	Good
<i>Bacillus fragilis</i> ATCC 25285	Good
<i>Escherichia coli</i> ATCC 25922	Good

* According to ISO 7937, incubate under anaerobic conditions at 37°C for 18-24 hours.

According to ISO 11133 (21±3)h/37±1°C

Microorganism	Productivity Qualitative	Inoculum (cfu/ml)	Recovery Rate (%)
<i>Clostridium perfringens</i> ATCC 13124	Turbidity	10 ³ -10 ⁴	≥ 70

Storage

Once opened keep powdered medium closed to avoid hydration.