

INTENDED USE

Difco™ TTC Solution 1% (Triphenyltetrazolium Chloride) is ready for use in the preparation of culture media.

SUMMARY AND EXPLANATION

TTC Solution 1% is prepared from microbiologically tested 2, 3, 5 triphenyltetrazolium chloride (TTC) for use in all microbiological methods utilizing triphenyltetrazolium chloride. It is used as a redox indicator in culture media for differentiating bacteria.

Chapman¹ reported that the addition of TTC to Tergitol™ 7 Agar permitted the detection and confirmation of *E. coli* after only 10 h incubation. Chapman also reported that Tergitol 7 Agar with added TTC gave a selective medium for the detection and isolation of *Candida albicans*. Chapman² added TTC, Tergitol 7 and Brom Cresol Purple to Sabouraud Maltose Agar for the isolation and identification of *C. albicans* and other fungi. Pagano, Levin and Trejo³ incorporated TTC in Pagano Levin Base for the detection and isolation of *Candida* species.

Slanetz and Bartley⁴ used TTC in m-Enterococcus Agar for the enumeration of enterococci. On this medium the colonies appear as pink to dark maroon in color. Kenner, Clark and Kabler⁵ used TTC with KF Streptococcus Agar and Broth to detect and enumerate streptococci in surface waters.

PRINCIPLES OF THE PROCEDURE

TTC Solution 1% is used as a redox indicator in culture media for differentiating bacteria. It is colorless in the oxidized form and is reduced to insoluble red triphenylformazan by suitable bacterial reducing systems. The formation of the insoluble formazan is an irreversible reaction. Once a microorganism reduces the indicator the red color persists.

REAGENTS

Approximate Formula Per 100 mL Purified Water

2, 3, 5-Triphenyltetrazolium Chloride 1.0 g

Warnings and Precautions: For Laboratory Use

Warning



H315 Causes skin irritation. **H319** Causes serious eye irritation. **H335** May cause respiratory irritation.

P264 Wash thoroughly after handling. **P280** Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 "IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing." **P312** Call a POISON CENTER or doctor/physician if you feel unwell. **P403+P233** Store in a well-ventilated place. Keep container tightly closed. **P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

Storage Instructions: On receipt, store tubes in the dark at 2–8 °C.

Product Deterioration: Do not use if tubes show evidence of contamination, discoloration, or other signs of deterioration.

PROCEDURE

TTC Solution 1% is generally used in a concentration of 0.01 g per 100 mL of broth or agar medium. This concentration is achieved by adding 1 mL TTC Solution 1% to 100 mL sterile medium cooled to 50–60 °C.

AVAILABILITY

Cat. No.	Description
231121	BD Difco™ TTC Solution 1%, 30 mL.
220110	BD Difco™ Brom Cresol Purple, 5 g.
274620	BD Difco™ m-Enterococcus Agar, 500 g.
249610	BD Difco™ KF Streptococcus Agar, 500 g.
212226	BD Difco™ KF Streptococcus Broth, 500 g.
214110	BD Difco™ Pagano Levin Base, 500 g.
211020	BD Difco™ Sabouraud Maltose Agar, 500 g.
242910	BD Difco™ Sabouraud Maltose Agar, 2 kg.

REFERENCES

1. Am. J. Pub. Hlth., 41: 1381. 1951.
2. Tran. N.Y. Acad. Sci. Series II. 14: 254. 1952.
3. Antibodies Annual, p. 137. 1957 - 1958.
4. J. Bact. 74: 591. 1957.
5. Appl. Microbiol. 9: 15. 1961.

Technical Information: In the United States, contact BD Technical Service and Support at 800-638-8663 or www.bd.com/ds.

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