Rapid Screening for *E. Coli* and Total Coliforms in Foods and Beverages with Coliscan® Easygel® and Coliscan® Plus Easygel®

These novel, patented* media fulfill a long standing need in the Food Industry for a simple-to-use, accurate and rapid means of testing for the presence of these very important organisms. The medium is available in the standard Easygel format of one test equals one small bottle of liquid medium plus one pretreated petri dish. It does not require any autoclaving. Following are instructions for use.

Instructions:

1. Prepare your samples and petri dishes for the inoculation procedure.
   A. Prepare your food or beverage samples as usual.
   B. Lay out and label the petri dishes you will be using.

2. Add 1-5 mL of your prepared test sample into the small bottle of Coliscan® Plus Easygel® and swirl gently to mix. You are now ready to pour your medium into the petri dishes containing the test samples. (Alternatively, the swab approach may be used.)

3. Pour the sample-medium mix into a pretreated petri dish, swirl gently to cover the bottom of the dish and allow to stand until gelled. (Or place directly into the incubator and allow gelling to occur there.)

4. When the medium is solidified the dishes should be placed right side up in a 35° C. incubator for 24±2 hrs. In actuality, most samples can be accurately read for *E. coli* as early as 14 hours incubation time by checking for fluorescent spots representing colonies, and blue *E. coli* colonies are commonly visible at 16-18 hrs, with other coliforms being somewhat slower.

5. Interpretation for both Coliscan® Easygel® and Coliscan® Plus Easygel® is as follows: (the use of a 10X magnifier may facilitate accurate reading of results)

   A. *E. coli*** colonies will appear in ambient visible light as dark blue circular dots.
   B. Coliforms other than *E. coli* will appear as light pink/red circular dots.

Aeromonas species (technically not coliforms, but very closely related and potentially just as important as coliforms) may sometimes be present and will appear as clear pink/red or uncolored circular dots (colonies). However, they are oxidase positive *and E. coli, and Coliforms are all* oxidase negative. (a simple spot test can be done by soaking a piece of filter paper with an aqueous solution of tetramethyl-P-phenylene diamine and picking a bacterial colony from a dish and smearing it onto the soaked filter paper. A purple spot will develop within seconds if positive).

Total Coliforms are the sum of the *E. coli* (dark blue) and Coliform (pink/red) colonies.

**Additionally, with Coliscan® Plus Easygel®, verification of of *E coli* is accomplished by shining a long wave (366 nanometer) UV light on the back of the dishes (do this in a dark room). If any of the colonies are *E coli*, the area around the colonies will fluoresce a bright bluish color. This fluorescence can also be used as proof for the presence of *E. coli* in a sample, thus making the medium an effective P/A test for *E. coli* if quantitative results are not needed.

This medium is also available by special order with an additional inhibitor which prevents the *Aeromonas species* from growing, thus simplifying the color differentiation of the other bacterial types. However, it is recommended to not add the inhibitor, because of the importance of the presence of *Aeromonas* species.

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