LaMotte

TOTAL COLIFORM AND *E. coli*

INDICATOR BACTERIA

TEST KIT

4-3616-UV

WARNING! This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

This Coliform Indicator Test Kit utilizes an easy-to-use, disposable 5-tube method to indicate the presence of Total Coliform and E.coli Bacteria in a drinking water supply. The water sample is placed in test vials containing special coliform indicating tablets and incubated at room temperature for a predetermined time period. After the required incubation period, the vials are examined to determine the presence of coliform and E.coli bacteria.

Carefully read the instructions completely before attempting to collect a sample or run the test.

CONTENTS

Each kit contains 5 glass tubes, marked at 10 mL. Each tube contains one Coliform Test Tablet with MUG (4890). A sterile Water Sampling Bag (2-2197) containing a dechlorinating tablet is included for chlorine removal. A UV Light (1118) is included to determine the presence of E. coli.

Emergency information for all LaMotte reagents is available from Chem-Tel (US, 1-800-255-3924) (International, call collect, 813-248-0585).

INTRODUCTION

The Coliform Test Tablets with MUG (Code 4890) contain nutrients to support the growth of coliform bacteria, a gelling substance, an indicator for the detection of *E. coli*, and a pH indicator. If coliform organisms are present in the sample, gas will be generated as a result of the bacteria metabolizing the nutrients in the tablet. This gas will be trapped in the gelling substance and cause the gel to rise in the tube. The pH indicator may change color from red to yellow as further evidence of coliform bacteria activity.

The coliform tubes also include MUG or 4-methylumbelliferyl-beta-D-glucuronide. Ecoli produces the enzyme (beta-D-glucuronidase) which cleaves the MUG substrate, yielding an end product which fluoresces blue under long wavelength ultraviolet light (365 nm).

Suggestion: As the test requires a 44-48 hour incubation time, sample at a time period convenient to the user to read the end result.

STORAGE

The unused kit should be stored at room temperature and out of direct sunlight. Keep away from children. This product is to be used for water analysis tests only.

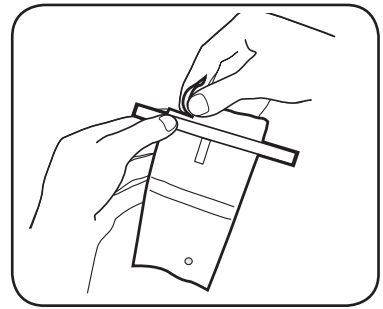
CHLORINE RESIDUAL PRECAUTIONS

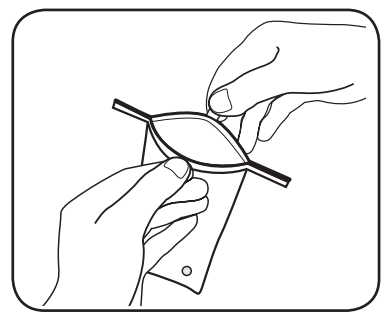
Water samples with chlorine residuals tend to suppress the growth of coliform bacteria when used with this kit. A sterile Water Sampling Bag with a dechlorinating agent (2-2197) is provided to collect the sample and neutralize any chlorine which may be present in the water. See page 5.

SAMPLE COLLECTION & TEST PROCEDURE

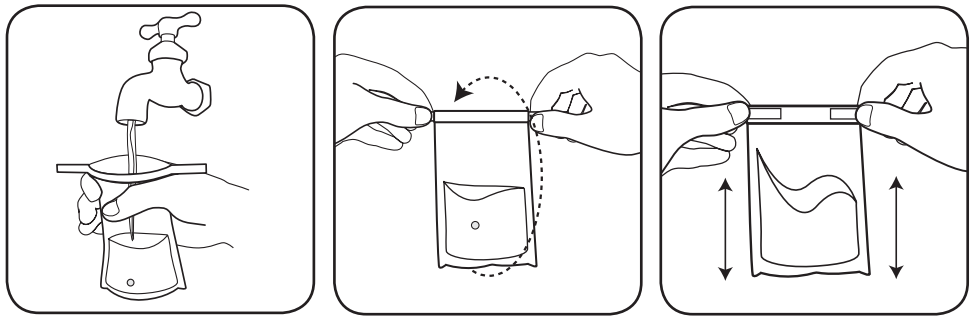
1. Determine the sample source, i.e. water spigot, faucet, system sample valve, etc.
2. Soak a cotton ball or gauze with household alcohol and wipe the entire water outlet area of the spigot, faucet or test valve. Pay particular attention to faucet aerator screens and mixers.
3. Allow tap (cold water) to run for 2 to 3 minutes or until the line is flushed.
4. Reduce the tap water flow to a rate that will fill the Water Sampling Bag (2-2197) slowly without splashing. Tear off the top of the bag at the scored line and pull the tabs outward to open the bag. Do not touch the bag opening or inner surface.

Caution: Do not allow the tablet to fall out of the bag.





5. Fill the bag to the 4 oz fill line. Pull the wire ends to close and whirl the bag for three complete revolutions. Shake the bag to dissolve the tablet.



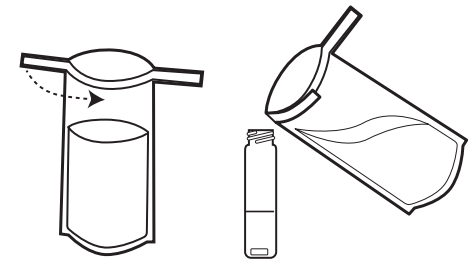
6. Remove all 5 tubes from the display package and remove the caps.

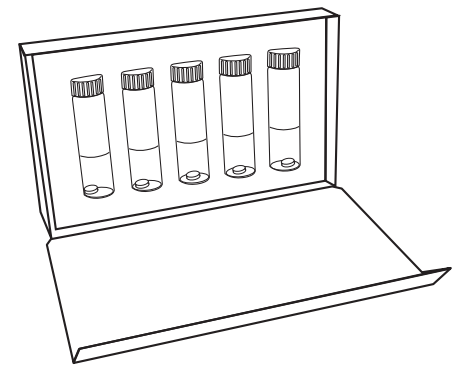
NOTE: Do not remove the tablets from tubes.

CAUTION: To avoid contamination, do not touch the inner surface of the caps and tubes or handle the tablet.

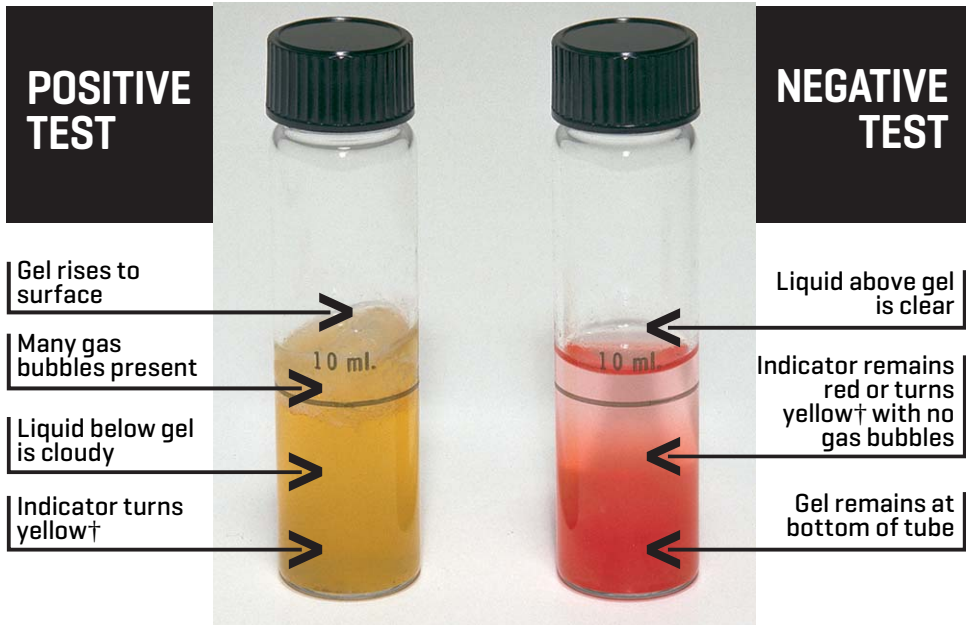
7. Unwhirl the bag and pull the tabs outward to open the bag. Fold one tape wire inward to form a spout. Carefully fill all 5 tubes to the 10 mL line with the water sample. Replace the caps tightly. Do not mix or shake tubes.
8. Stand the carton upright and place all 5 tubes into the display package. All tubes should now be standing vertically with the tablet at the bottom of the tube. The tablet should lie flat on the bottom of each tube.
9. Store the tubes at room temperature, out of direct sunlight, for 44-48 hours. The air temperature should be fairly constant and between 70°- 85° F (21° - 29° C). While the tubes can be incubated at room temperature, incubation at 44.5° C (112° F) will accelerate growth and result in a more rapid test result.

NOTE: Do not disturb, handle or shake the tubes during the designated incubation time period. If these storage conditions are not followed precisely, the results of the test may vary and may not be valid.





TOTAL COLIFORM TEST RESULTS

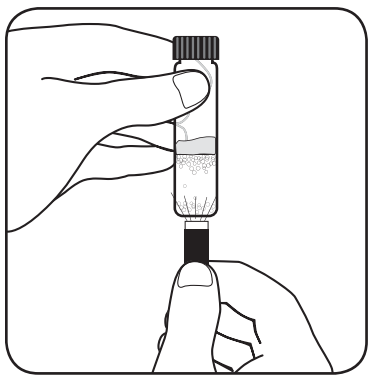


† NOTE: Both the yellow color and gas bubbles must be present for a positive test result.

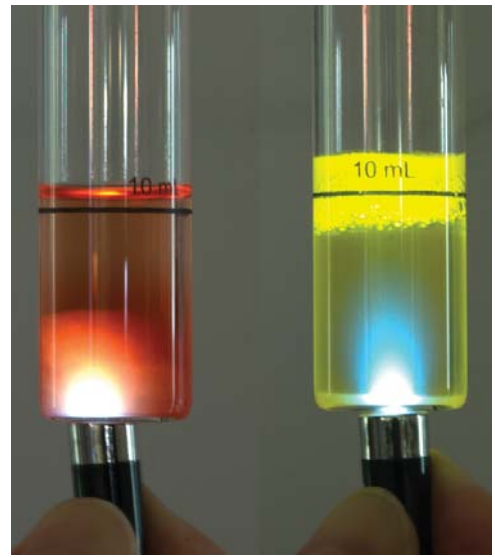
E. coli TEST RESULTS

If Total Coliform test is positive:

1. In a darkened room, hold the UV Light** (31633) against the bottom of the incubated Total Coliform test tube.
2. Press the button on the UV Light** to shine the beam up through the sample towards the cap.
3. If *E. coli* is present, the sample will have a blue glow.



**Warning: Do not stare directly into the UV light source.



negative positive

TOTAL COLIFORM TEST RESULTS

RESULTS ANALYSIS

A positive result in any one of the five tubes should be regarded as a potential coliform bacterial contamination. If a positive result is found in two or more tubes, there is a potential for a serious bacterial contamination problem. Further steps should be taken to validate these results by a certified bacteriological laboratory.

A positive fluorescent screening test is an indicator of the presence of fecal coliforms and may include certain strains of *E.coli*. Water samples with positive screening results for total or fecal coliforms may require additional laboratory testing to define specific health risks.

DISPOSAL

After the results are recorded, dispose of the inoculated tubes as follows:

- Remove all of the tubes from the display package.
- One tube at a time, remove the cap and add approximately 1 mL (or 1/3 teaspoon) of household bleach (chlorine bleach) to the tube and immediately recap. Follow the above procedure for all of the remaining tubes.
- Return the tubes to the tray and again stand upright. Let tubes stand for approximately 4 hours.
- Dispose of the tubes and package as required by local jurisdiction. Do not open the tubes or attempt to clean them for reuse.

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