



Coliform/*E.coli* Test Kit

NEW

EC Blue Method

Instruction Manual



COLIFORM/*E.coli*

Potable water is our most important nutrient, used for both drinking and cooking. The water being used for personal hygiene and all types of cleaning requires the same high quality. It is therefore important to have enough water of satisfactory quality to cover all types of usage. Safe potable water secures good health, but water can also contain hazardous microbes that cause infectious disease or food poisoning.

Coliform and *E.coli* are good indicators of general bacterial contamination and, because they are easy to test for, make ideal indicator bacteria to monitor in water courses, tanks and pipe work. WHO guidelines on potable water quality state that zero Colony Forming Units (CFU) of *coliforms* and *E.coli* should be present per 100ml of water sample.

The Lovibond® system tests 100ml samples and will indicate the presence of just one CFU/100ml.

The test uses a pre-dispensed dry blended reagent formulation for total *coliform* and *E.coli*. Positive samples are detected by a visible colour change. Performing the *coliform* test is simple. Add one sachet to 100ml of water, incubate and note the colour change. The formation of a blue colour in 24 hours or less indicates the presence of total *coliforms*. Positive tubes are then checked for the presence of *E.coli* by looking for fluorescence under UV light.

EC Blue is a simple, reliable technique which enables the rapid, confirmed enumeration of both total *coliforms* and pathogenic *E.coli*.

The Lovibond® DI 10 dipslide incubator is ideal for correct incubation of samples prior to reading

Accessories

Code	Article	Pack
56B002125	<i>Coliform/E.coli</i> test set (includes 25 test sachets & 25 sample bags)	25 tests
56B001425	<i>Coliform/E.coli</i> sachets	Pack 25
56B001525	100ml Sample Bags (with thiosulphate)	Pack 25
56B001601	UV Lamp (battery Operated)	Each
56B000701	DI 10 Dipslide Incubator (optional extra)	Each

COLIFORM/*E.coli*

Workplace and Cleanliness

Simple to follow, step by step instructions are provided for the operation of all items and performance of all tests within this kit. It is however important to find a suitably clean and uncluttered area in which to organise and perform each test. Working in this environment will prevent mistakes and avoid contamination of the tests being performed. Ensure that all used items are suitably disinfected and disposed of correctly. Work surfaces should be cleaned with detergent and water before and after testing.

Personal Protective Equipment (PPE)

Due to the nature of the test chemicals contained within this test kit and the potential hazard to health of the samples being tested, it is important to wear gloves and safety glasses when carrying out all tests contained within the kit.

Operational hazards

EC Blue (unused)

Unused EC Blue sachets present no hazard to health.

EC Blue (used)

Bags containing used/incubated samples for the analysis of *E.coli*/coliforms should be treated as potentially hazardous to health until they have been suitably disinfected and washed/rinsed. These samples could contain cultured bacteria and care should be taken NOT to allow the contents to come into contact with skin or eyes. The health risk is primarily from the ingestion of bacteria after transfer to clothing or hands, not from actual skin contact. If contact is made, remove contaminated clothing and wash thoroughly with a strong detergent. Wash contaminated skin with soap and water.

Disinfect used samples in strong bleach solution prior to disposal.

Samples Being Tested

Again samples being tested could contain coliform/*E.coli* and as such, present a similar risk to used EC Blue samples. Take the same precautions as detailed above.

COLIFORM/*E.coli*

Test Procedure

This test procedure uses the EC Blue sachets, 100ml sample bags and the UV lamp. The DI-10 Dipslide Incubator is recommended for EC Blue incubation at 35°C.

Incubation times and temperatures are given below:

System	Incubation Time (hours)	Temp (°C)	Observation for +ve
EC Blue Coliform -	22-26 hours	35°C	Colourless to Green/Blue
EC Blue <i>E.coli</i> -	22-26 hours	35°C	Fluorescence in UV light

These tests are very sensitive and, as such, it is important to prevent contamination. Ensure that the person performing the sampling and testing has washed hands thoroughly with soap and water. Do not allow the bag to remain open for any period of time, other than to take the sample and add the sachet. Do not let the sample point touch the bag.

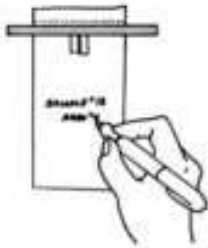
Procedure

1. Take one of the 100ml sample bags and collect 100ml of water to be tested. Use the pictorial guide for proper sampling procedure with the thio bags.
Note: It is important that the sample point is free from potential contamination. If necessary clean the sample point thoroughly prior to sampling. The sample bag contains a tablet to neutralise any chlorine that may be present in the sample. Allow this tablet to dissolve before continuing to step 2.
2. Carefully add the contents of one Sachet to the 100ml sample. Close the bag and agitate gently to aid dissolution. **Please Note that the sample may turn yellow on addition of the reagent. This is simply due to the reagent itself.**
3. Incubate the sample according to the temperature and time period in the table above.
4. **Sample interpretation (Observation for positive (+ve) result)**
 - a. Visually check the sample for green or blue colouration. If the sample is green or blue then coliform bacteria are present.
 - b. Place the sample in a dark area and expose to long wave UV light by shining the UV lamp supplied on the sample. If the sample fluoresces (glows a blue colour), the sample contains *E.coli*.
 - c. Product Storage: Store all bacterial test sachets at 4°C to 30 °C, (preferably 4 °C to 7 °C), away from the light. Observe use-by dates.

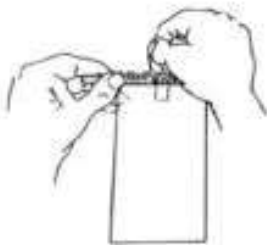
COLIFORM/*E.coli*

Pictorial Sampling Guide

8



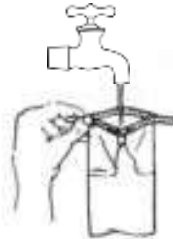
1. Label the bag with sample information if necessary



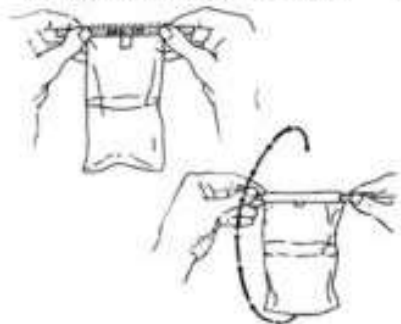
2. Tear off the top of the bag along the perforation



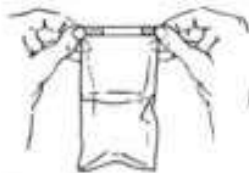
3. Use the pull tabs on each side to open the bag. Sometimes a little pull on the bottom of the bag helps open it completely.



4. Fill the bag with 100ml of sample water from the clean outlet/faucet.



5. Pull the ends of the wire to close the bag. Holding the bag by the wire ends, whirl the bag three complete revolutions to form a leakproof seal. Whirling the bag will form a tight seal. Alternatively, fold the tab over as tight as possible.



6. Bend the wire ends over onto the bag to complete the closing.

