

- Purpose
- How to apply the tool
- Context of the tool



Introduction to Escherichia coli (E.Coli) test kit

BACKGROUND OF THE TOOL

This easy-to-use water bacteria test, can be used to check the **presence of coliform bacteria (E. Coli)**. Coliform bacteria are a commonly used indicator of the sanitary quality of water. Some examples of coliform bacteria include E.coli, Serratia, Enterobacter, Citrobacter, Hafnia, Yersinia and Klebsiella.

The E.Coli test kit is a simple tool to use as it is,

- Reliable
- Low detection level
- Ideal for on-site and field testing
- Ideal to test drinking water for bacteria due to its low detection level

Suitable for use in: fresh water samples, including water from tanks, taps, wells, springs, boreholes, ponds as well as rain water.

BACKGROUND OF THE TOOL

- Bacterial contamination may not be detected by taste, smell or sight. Floods, human or animal waste, like insects, rodents or animals entering a well can be a cause for bacteria
- Public water supplies should be regularly tested, but contamination can also happen in the home, ie. in water tanks or bad plumbing. Private water supplies, like wells or springs, should be tested regularly.
- Contaminated water may not smell or taste bad, but the presence of even small amounts of some kinds of bacteria can cause anything from upset stomachs to hospital visits. Some waterborne bacteria can even be fatal!

HOW TO USE IT : SAMPLING PROCEDURE

Step 1: Collect the water sample from chosen water source using a syringe. Fill the test tube with your water sample using the syringe and put the cap on it.

Step 2: The tube must be kept at a body temperature (37 degrees), which is the best growing condition for E.Coli. This can be done by placing the tubes in an incubator, a wonder bag filled with warm bottles to create the suitable environment for E.Coli formation or using your body as an incubator.

Step 3: Monitor the change in color of the tube over **24 hours (one day)**.



HOW TO READ RESULTS OF E.COLI TEST

Step 4:

- Use the time indicator table to interpret the color indicator.
- Note the time that the reagent in the test tube changed colour - the quicker the colour change, the more E. coli is present.
- The standard acceptable E.coli levels are 100 cfu/100ml, which works out to being 1cfu/ml – which sits at the **19-24 hour colour change range in the table**. If the colour changed at any time earlier than 19hours, then the water is sitting at a dangerous (for human consumption) E.coli level.

cfu(coliform units)/ml	Hours taken to change colour
0.1 – 1	24
1 - 10	19
10 - 100	16
100 - 1000	14
1000 – 10 000	13
10 000 – 1 000 000	9
>1 000 000	8

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