

# Independent Guide

## What do I need to know about, Drinking Water Quality: Escherichia coli?



Independent workplace compliance

### What is Escherichia coli (E.coli)?

E.coli is a bacterium which is a common inhabitant of the gut of warm-blooded animals, including humans. There are many different types of E.coli and, although many live harmlessly in the gut, some will cause disease. As it originates from animal or human faeces, its presence in drinking water is an indication of direct faecal contamination and may indicate the presence of more harmful bacteria which may be present in faeces.

### How does contamination occur?

Contamination of the water supply can occur in the following ways:

- When there has been a leak of sewage into the drinking water source.
- Where staff or cleaners have employed poor hygiene practices, for example, not washing hands after visiting the toilet and then touching a water outlet, such as a tap.

### What is the legislation?

The Water Supply (Water Quality) Regulations and the Public Water Supplies (Scotland) Regulations. These regulations set strict guidelines to the physical properties of drinking water. They also state that drinking water should not contain certain chemicals or micro-organisms, such as E.coli bacteria. The legislation is further enforced by the Workplace (Health, Safety and Welfare) Regulations, which state that every employer has a duty to supply "wholesome" drinking water.

### What other health risks are posed by E.coli?

One type of severe E.coli poisoning can lead to abdominal cramps and watery diarrhoea. Fever and vomiting may also occur, but most patients recover within ten days.

### How do I know if it is present in my drinking water?

Regular testing of your drinking water supply by an independent company with no involvement with the water treatment or maintenance of drinking water outlets, such as vending machines and water coolers, will ascertain whether E.coli, or other bacteria, is present in your water system. The microbiological quality of drinking water can be ascertained by using total viable bacteria counts to measure the effectiveness of water treatment and testing of samples for specific organisms to determine whether there has been any faecal contamination. In our experience, drinking water supplied directly from the mains in the UK tends to be of an extremely high quality (less than 1% of the samples we take from direct mains sources have failed to meet the wholesome drinking water criteria). However, we do find problems with drinking water quality in samples we take from vending machines and water coolers.

### What should be done if E.coli is detected in a vending machine or water cooler?

If E.coli is detected in a vending machine or water cooler the following action should be taken:

- Take the relevant machine out of service immediately.
- Disinfect the machine in accordance with the manufacturer's specification.
- Review cleaning procedures to ensure that they comply with current recommended guidelines.

To avoid problems with cross-contamination of machines it is extremely important to ensure that the staff responsible for the cleaning and sanitising of the vending machines or water coolers are correctly trained and are aware of the potential for contamination during the cleaning process. It is also important to ensure that employees do not fill their own personal bottles from water coolers, as contamination of the nozzle can occur.

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