

REFERENCE

2526523

RELEASE DATE

11 February 2026

SUBJECT

Request for NI Water Guidance on Acceptable Free and Total Chlorine Levels in Potable Water

RESPONSE

There are no prescribed upper or lower limits for free and total chlorine in The Water Supply (Water Quality) Regulations (Northern Ireland) 2017, also known as “The Drinking Water Regulations”. However, an upper limit for free chlorine of 5mg/l has been agreed with the Public Health Agency, Environmental Health and the Drinking Water Inspectorate. The World Health Organisation (WHO) has also set a health-based target guideline maximum value of 5 mg/l for chlorine as a residual disinfectant in drinking water. However, the WHO note that this guideline value is conservative, as no adverse effect level was identified in the study.

NI Water, like all water providers in the UK, is required to ensure that the water supply to customers is free from any microorganisms or other contaminants that may cause ill health. Chlorine is the most widely used disinfectant for the inactivation of waterborne pathogens in drinking water supplies and the residual level that remains in the distribution system provides quality assurance at the customer tap. All our water supplies contain an amount of chlorine to ensure it remains free from harmful bacteria and is safe to drink. NI Water routinely monitors chlorine residuals to ensure that an adequate level of chlorine is maintained throughout the distribution system.

In effect, we only add as much chlorine as we need to adequately disinfect the water and ensure that there's a residual to the ends of the distribution system. There will obviously be different levels in different areas, depending on the extent of the distribution network and whether there is any additional boosting required at downstream Service Reservoirs.

Customers who are situated closer the Water Treatment Works (WTWs) may experience higher levels than those further away as the chlorine will reduce with time as it travels through the system. Any reduction in chlorine at the WTWs themselves

could compromise microbiological quality at the ends of the distribution system and is continuously monitored.

The Drinking Water Regulations necessitate a thorough and extensive water sampling programme to be undertaken to monitor water quality throughout the supply and distribution systems. The sampling locations and frequencies for the monitoring of drinking water quality are specified in the Regulations. The mandatory sampling programme requires water samples to be collected regularly at WTWs, at service reservoirs and water towers used to store treated water and at customers' taps in the water supply zones.

Samples collected from customers' taps are taken at random addresses in each water supply zone. A water supply zone is a designated area with a population of no more than 100,000 supplied with water by one treatment works or blended water from several works. The number and boundaries of water supply zones are subject to change according to operational requirements as supply sources to areas are adjusted to meet demand and infrastructure developments. There is no requirement for customers to be informed when these minor operational changes to our distribution system are made.

You are entitled to request a copy of the Public Register Report for your water supply zone for your information. This details all the parameters tested as required under the Drinking Water Regulations and the Minimum, Maximum and Average results for each parameter tested.

Please note it is possible for one to check the Water Quality Report for their water supply zone at any time by clicking the link below and entering the relevant postcode.

<https://www.niwater.com/about-your-water/drinking-water/water-quality-results>

There is a lot of useful information on the website, including the guide "Looking after water in your home". It answers all the questions about how to look after water in your home. A copy of the guide can be downloaded via the following link.

http://www.niwater.com/sitefiles/resources/pdf/leaflets/2015/water_in_the_home_2015.pdf