

## Taste and smell (odour) of drinking water

All water sources contain a number of naturally occurring minerals such as calcium, magnesium and iron. The varying concentrations of these minerals in water give rise to slightly different tastes that can be detected by people, especially when travelling to different parts of the country. Water also contains dissolved gases such as oxygen and carbon dioxide that can also give tap water a characteristic taste. Without these elements water would taste flat and unappetising.

Water in the Dŵr Cymru Welsh Water region typically comes from upland surface water reservoirs, however, some water is abstracted from rivers and groundwater aquifers. Each source is treated according to its requirements to ensure that the drinking water quality standards are met.

## Different types of taste and odour

The sections below describe common causes of tastes and odours of drinking water supplies. If any Welsh Water customer is concerned about the taste and / or odour of their tap water they should contact us.

### Chlorine

Chlorine is added to drinking water during the final stages of treatment to kill any harmful germs that may be present. A small amount of chlorine remains in the water as it makes its way to customers' taps in order to maintain its wholesomeness. Chlorine levels in drinking water are kept well within the recommended limits. Customers who live near a water treatment works or an automatic chlorine booster station will receive drinking water with slightly higher chlorine levels than those living further down the distribution system as chlorine levels decline the further water travels through the water mains.

Chlorine concentrations can vary slightly throughout the day as increased demand for tap water will result in water travelling faster through the system. Changes in water temperature can also affect chlorine concentrations, with higher levels experienced in the winter. Occasionally, chlorine concentrations are increased to deal with operational issues. It is worth noting that chlorine levels added to the water at treatment works are closely monitored 24 hours a day.

The quantities of chlorine found in drinking water are not harmful. However, some people are more sensitive to the taste and smell of chlorine than others. Filling a jug, covering it and allowing the water to stand in the fridge until required for use can reduce the chlorinous taste. Any water not used after 24 hours should be discarded. A chlorinous or metallic taste in hot drinks, especially tea, is unlikely to be caused by the presence of chlorine and is most likely associated with internal plumbing materials.

### Earthy or musty taint

Water that passes through peaty land can have an earthy or musty taste and / or odour. The water treatment works in such areas are designed to remove the organic material that causes these tastes using activated carbon.

Several types of bacteria and algae that are normally present in lakes, reservoirs and rivers naturally produce the substances responsible for these off flavours. These musty or earthy tastes and odours tend to be more apparent after long periods of warm dry weather. Some of these organisms can also grow on washers and the inside of taps giving rise to similar problems.

### TCP taste and smells

Customers occasionally contact us to report that the water from their tap has an unpleasant taste, often described as TCP, medicinal, metallic or bitter. Sometimes this taste occurs only in boiled drinks, or when a glass of water has stood for a period of time.

These tastes and odours can be caused by the reaction between the small but essential amounts of chlorine present in tap water and the manmade plastic or rubber constituents found in common household appliances such as some kettles, tap washers, and the hoses connecting dishwashers and washing machines to the mains water supply.

The problem is extremely simple to solve:

- To confirm whether the kettle is the issue, try making a hot drink with water boiled in a saucepan and compare the taste with one made from the kettle
- To confirm whether the dishwasher or washing machine hose is the cause, isolate the hose and taste the water again. If this solves the taste problem, fit a non-return valve on the end of the hose where it connects to the pipework. Always ensure that any flexi hoses and tap washers are Water Regulations Advisory Service (WRAS) approved. Your plumbing supplier should be able to confirm this.

## Rubber or plastic

Certain plumbing materials that come into contact with the water supply in homes, offices and factories can give rise to an unpleasant taste and odour. When water stands in contact with the pipe small amounts of substances may dissolve from those pipes. Rubber and plastic hoses used to fill drinking water tanks or vending machines and hoses to washing machines and dishwashers can give rise to a rubbery or plastic taste. If you have a washing machine or dishwasher plumbed into pipework under the sink, try closing the valves to see whether the problem persists.

## Bitter

A metallic or bitter taste can be caused by copper, iron or galvanised pipes. If water has been standing for several hours in the pipe fill a washing up bowl with water and draw fresh water through the pipe. The water in the bowl can be used for watering plants and need not be wasted. Occasionally glasses or cups that have been through a dishwasher may retain traces of detergents. As a test, try rinsing the glass or cup with tap water and see whether the taste persists. If so, adjust the settings on your dishwasher and use no more than the recommended amount of detergent and rinse-aid.

## Petrol or diesel

If a petrol or diesel taste or odour is detected from the water from your kitchen tap, customers should contact Dŵr Cymru Welsh Water's customer operational helpline. Occasionally customers spill heating oil or petrol on drives and gardens and if there is a plastic service pipe located in this area the petrol / oil can adversely affect the water in the service pipe. If such a taste or odour is detected, do not drink the water or use it for cooking purposes until a Welsh Water inspector has visited to investigate your tap water supply.

## Where can I get further information?

Please call us first on our operational helpline on **0800 052 0130**.

One of our regulators, the Drinking Water Inspectorate, is responsible for ensuring the high quality of public water supplies. You can visit their website at: [www.dwi.gov.uk](http://www.dwi.gov.uk)