Water quality

What we test your water for

1, 2 – Dichloroethane
A chemical intermediate and solvent. It can contaminate groundwater underneath industrial sites. Where necessary, special treatment to remove solvents is used. Limit: 3µg/l

Alkalinity
Alkalinity comes from the rocks which water has passed through, such as chalk or limestone. It is an indication of the natural hardness and pH of the water. It can be altered by softening. Limit: None specified

Aluminium
Aluminium is found naturally in water sources and is removed during water treatment processes. As aluminium sulphate, it can be used as a treatment chemical to remove particles or cloudiness when closely controlled. Limit: 200µg/l

Ammonium Ammonia occurs naturally in the environment as ammonium salts and may be present in trace amounts in water. Ammonia is a key component of fertilisers, and its presence can indicate possible contamination. Ammonium salts do not themselves cause health problems and are generally removed through standard treatment, but they can interfere with disinfection processes if not treated effectively. Limit: 0.5mg/l

Antimony
These substances are rarely present in water although trace levels have been associated with impurities from plumbing. The standards for these are generally very stringent to reflect their potential toxicity. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 5µg/l

Arsenic
These substances are rarely present in water although trace levels have been associated with impurities from plumbing. The standards for these are generally very stringent to reflect their potential toxicity. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 10µg/l

Benzene
Benzene is an organic solvent used in a variety of industries and as an additive in petrol. Limit: 1µg/l

Benzo-(a)-pyrene
Benzo-(a)-pyrene is a PAH compound (see total polycyclic aromatic hydrocarbons) that has a standard as an individual substance based on its toxicity. Strict controls, monitoring and processes are in place and the risk of its presence in the water supply is considered low. Limit: 0.0µg/l

Boron
Boron can be present naturally at low concentrations and is not considered a health risk in drinking water. Higher concentrations may be present in some surface waters where there are discharges present from industrial sources as boron is used in a variety of industries such as medical, cosmetic and agricultural preparations. Limit: 1mg/l

Bromate
Bromate is a by-product of disinfection formed by the reaction of naturally occurring bromide with strong oxidants, particularly ozone. A stringent standard has been set based on toxicity and best water treatment practice. Limit: 10µg/l

Cadmium
Cadmium is rarely present in water although trace levels have been associated with impurities from plumbing. The standards for these are generally very stringent to reflect their potential toxicity. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 5µg/l

Calcium and magnesium
Calcium and magnesium are naturally occurring minerals found, for example, in limestone and chalk rock. Both are essential elements for health and contribute to the natural hardness of water, particularly calcium. Limit: None specified.

Chloride
Chloride in drinking water originates from natural mineral salts. The most common are hardness salts – calcium and magnesium. It may be present in water from local use of de-icing salt. Chloride is not harmful to health at levels found in drinking water. Limit: 250mg/l

Chlorine (free and total)
It is a legal requirement to disinfect water during treatment to remove or kill harmful bacteria. Small amounts of chlorine are added to our water as part of this disinfecting process. Its use was responsible for helping eliminate diseases such as typhoid and cholera. Occasionally customers may notice a slight chlorine taste, but this is completely harmless. No limit (World Health Organisation guideline value – 5mg/l).

Chromium
Chromium is rarely present in water although trace levels have been associated with impurities from plumbing. The standards for these are generally very stringent to reflect their potential toxicity. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 50µg/l

Clostridium perfringens
Clostridium perfringens are groups of bacteria, which indicate possible faecal contamination of water supplies. An occurrence of *Clostridium perfringens* is always investigated immediately. Limit: 0 per 100ml

Coliform bacteria (total coliforms)
Coliforms are bacteria that are widely distributed in the environment, often from human and animal activity but also in association with soil and vegetation. If found in treated water supplies, it indicates a quality problem and will be investigated immediately. In most cases, this is from the tap itself. We recommend that taps, including the inside of the spout, are cleaned regularly. Limit: 0 per 100ml

Colony counts
This is a measure of a number of groups of naturally occurring bacteria and is not indicative of any health hazard. However, unusually high numbers are investigated. Two-day colony counts are measured at 37°C and three-day colony counts at 22°C. Limit: No abnormal change.

Colour
Colour occurs naturally in surface water sources and is removed during water treatment processes. Treated water is required to be clear, bright, and free from colour. This standard is set primarily for aesthetic reasons. Limit: 20° Hazen

Conductivity
Conductivity is a measure of the amount of mineral salts that the water contains. Limit: 2500µS/cm

Copper
Copper occurs naturally in foods and the environment. In drinking water, copper is present mostly from copper pipes and fittings in household plumbing. This is especially true of new pipework where copper can result in blue or green staining of taps and other fittings and impart a sharp taste to water. Limit: 2mg/l

Cryptosporidium
Cryptosporidium is a protozoan parasite that can infect humans causing gastroenteritis. The parasites are shed into the environment as oocysts. Where there is a significant risk from their presence in water supplies, barrier treatment processes or UV treatment are required to remove them, and strict hygiene procedures are followed to prevent their entry after treatment. Limit: No prescribed concentration or limit

Cyanide
Cyanide is not normally present in water although trace levels have been associated with impurities from plumbing. The standards for these are generally very stringent to reflect their potential toxicity. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 50µg/l

Escherichia coli (E. coli)
E. coli should not be present in drinking water. They are sometimes found in untreated water, especially surface water reservoirs. While most types of *E. coli* are harmless, their presence in water can indicate that the supply has been contaminated. We'll always investigate immediately if *E. coli* is found in drinking water. Limit: 0 per 100ml

Enterococci
Enterococci are harmless bacteria commonly associated with faecal contamination. It should not be present in drinking water. If it is, it can mean the water supply has been contaminated, so we will immediately investigate. Limit: 0 per 100ml

Fluoride
Traces of fluoride occur naturally in many water sources, particularly groundwater. Limit: 1.5mg/l

Geosmin and 2-methylisoborneol (MIB)
These are organic compounds sometimes present in surface water sources due to the activity of certain microorganisms and algae. When present they cause musty or earthy odours and tastes at very low concentrations. They can be removed by appropriate activated carbon treatment and are not harmful to health. Limit: No regulatory standard

Hydrocarbons
Hydrocarbons are the main components of fuel, oil and solvents, and cover alkyl benzenes, benzene, toluene, and xylenes. Some individual hydrocarbons have specific regulatory limits, some have associated guidance values, but the majority have no recognised limit. The presence of hydrocarbons in drinking water at a customers' tap usually indicates that spilled fuel or oil has permeated the plastic pipes underground. Limit: No regulatory standard

Iron
Iron is naturally present in many water sources and removed during water treatment. Iron in water supplies may also come from the corrosion of iron mains or customers' galvanised iron pipes. Iron is not harmful to health and standards are primarily set for aesthetic reasons. Under certain conditions rust sediments in the mains can be disturbed and result in 'brown water'. This is usually cleared by flushing the water main and taps. Limit: 200µg/l

Lead
There will be no lead pipes in our new water networks or within your new-build home. However, many older homes still have lead pipes, and it is normally in these properties where the standard is exceeded. It's important to use WRAS-approved water fittings and WaterSafe plumbers to maintain the high quality of your water. Limit: 10µgPb/l

Manganese
Manganese is present naturally in many water sources and is typically removed during water treatment. If water mains are disrupted, it can sometimes cause sediment, containing manganese, to be stirred up and cause 'black water.' It is not harmful to health and flushing the tap generally clears the 'black water.' Limit: 50µg/l

Mercury
Mercury is rarely present in water although trace levels have been associated with impurities from plumbing. The standards for these are generally very stringent to reflect their potential toxicity. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 1µg/l

Nickel
Nickel is a trace metal occurring widely in the environment. It is rarely present in water although coatings on some taps and other plumbing fittings may contain nickel. These fittings can impart very low levels of nickel when water is left to stand in contact with them for a prolonged period. A brief period of flushing will usually remove this. Limit: 20µg/l

Nitrate
Nitrate is naturally present in all source waters, although higher concentrations are more commonly found in agricultural areas where nitrogen-based fertilisers are used on the land. Where necessary, nitrate levels are reduced to acceptable levels by water treatment. Limit: 50mg/l

Nitrite
Traces of nitrite may be produced when chlorine and ammonia are used together in the disinfection process. Limit: 0.5 mg/l

Non-lactose fermenters (NLFs)
Some colony count bacteria can show up in another test and are described by their appearance. Their significance is the same as other colony count bacteria. Limit: None specified.

Pesticides
Pesticides include aldrin, dieldrin, heptachlor and heptachlor epoxide. These are persistent organo-chlorine chemical compounds no longer used in the UK. Generally, these pesticides are not found in water sources but a more stringent standard has been set on the basis of their toxicity. Limit: 0.03µg/l

Pesticides (other compounds)
This group includes organic chemicals with a wide range of uses such as weedkillers, insecticides and fungicides. Many water sources contain traces of pesticide residues as a result of both agricultural and non-agricultural uses of pesticides on crops, and for weed control. Some of these chemicals persist in the environment. Where necessary, additional treatment is installed to remove pesticides. Limit: 0.1µg/l

Pesticides (total)
This is the sum of all the individual pesticides detected. Limit: 0.5µg/l

PFAS
PFAS are a group of chemicals that are extremely resistant to heat, grease and water making them a key component of many products such as non-stick cookware and firefighting foams. They are sometimes called 'forever chemicals'. Water companies are in the process of assessing and monitoring these chemicals to identify them, measure likely concentrations and assess the need for future mitigations. Limit: Guidance value 0.1µg/l

pH
pH, also called hydrogen ion, is the measure of the acidity or alkalinity of water. Water having a pH of seven on a number scale is described as neutral. Lower values occur if the water is acidic. Waters are usually maintained at a pH slightly higher than neutral, sometimes by the addition of alkali during treatment to minimise corrosion of pipes. Limit: 6.5 - 9.5

Phosphorus
Phosphorus occurs naturally in the environment and is a major component of fertilisers. It is not harmful to health and is often added to water at low levels to form a protective layer on the inside of lead pipes, reducing lead levels in tap water. Limit: None specified

Qualitative odour, qualitative taste
As well as chemical tests, we also use a team of experienced testers, who compare the sample with one which is known to be free from taste or smell. Most treated water has no distinctive odour or taste although customers' plumbing can contribute to a range of tastes such as disinfectant, plastic or metal if water has been standing in pipework for periods of time. Limit: All samples are checked and any significant finding is investigated.

Quantitative (dilution or threshold) odour and taste
As well as qualitative tests, we carry out more rigorous tests on a proportion of our samples. These involve panels of assessors tasting and smelling the water under strictly controlled conditions to provide a more representative assessment. Limit: Acceptable to consumers and displaying no abnormal change

Radon
Radon is a naturally occurring radioactive gas found in small amounts in all rock and soil. It seeps out of the ground in some locations and can collect in enclosed spaces where it primarily poses a risk through inhalation. Radon may dissolve in ground water where this originates in an area usually already recognised as being at risk of radon in the air. When present in drinking water, concentrations are generally low. Limit: 100Bq/l

Selenium
Selenium is not usually found in water although trace levels have been associated with impurities from plumbing. The standards for these are generally very stringent to reflect their potential toxicity. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 10µg/l

Silver
Silver is not present in source waters and not usually present in drinking water, but traces may be present when certain types of domestic filter are used. Limit: No regulatory limit

Sodium
Sodium is a component of common salt. It is present in seawater and brackish groundwater. Some water treatment chemicals contain it. Concentrations in drinking water are normally very low, but some water softeners can significantly add to the sodium concentration. In moderation, sodium is a normal and essential part of a healthy diet, in excess, sodium can be harmful, particularly to infants but also to adults over the longer term. Limit: 200mg/l

Sulphate
Sulphate occurs naturally in the environment, as mineral deposits. Sulphate is not harmful to health and is not removed during treatment. Limit: 250mg/l

Temperature
During warm spells the temperature of tap water will increase, changing its familiar taste slightly but not its quality. If this occurs, you could chill drinking water in the fridge. Limit: No regulatory limit

Tetrachloroethane and Trichloroethane
These compounds are used in a range of industries such as the food industry, dry cleaning, and chemical production. The standard for these two compounds relates to the sum of their detectable concentrations. Strict controls, monitoring and processes are in place and these substances are considered low risk. Limit: 10µg/l

Tetrachloromethane
Tetrachloromethane is a chlorinated solvent which are used in industry and should not usually be found in the water supply. Limit: 3µg/l

Total hardness
Hardness is a natural characteristic of water. It is formed when rainwater dissolves calcium and magnesium salts while passing through rock such as chalk. Hardness is not harmful to health although customers may notice a difference in the amount of lather from soaps – hard water lathers less than soft water. Limit: None specified

Total indicative dose (radioactivity) Total indicative dose is a measure of the effective dose of radiation the body would receive from consumption of treated water. Limit: 0.1mSv/yr (indicative)

Total organic carbon (TOC) The total organic carbon content is how much natural organic matter is in the water. The concentrations in water do not present any risk to health, but any significant change investigated. Limit: None specified.

Total polycyclic aromatic hydrocarbons (PAHs)
PAHs are components of the materials which, in the past, were used to line water mains. There are four individual PAH compounds that are monitored regularly. The sum of these four is calculated and regulated by one overall standard. PAHs are not harmful to health at the levels likely to be found in water. Limit: 0.1µg/l

Trihalomethanes (THMs)
THMs are formed when chlorine is added to water as a disinfectant and it reacts with organic substances. The standard is set well below the level at which it might cause health problems. Limit: 100µg/l

Tritium
Tritium is a radioactive isotope of hydrogen. It is not normally found in water sources. Discharge of radioactivity to the environment is closely monitored by the Environment Agency. Limit: 100Bq/l

Turbidity
Turbidity measures the presence of tiny particles that may make the water appear cloudy. If you allow a glass of water to stand for a few minutes, it will normally clear. Limit: 4 NTU

Zinc
Zinc occurs naturally in the environment and foods. Traces of zinc in water are usually from customers' galvanised iron pipework and are not harmful to health. Limit: None specified