

Lead in drinking water



Water Health
Partnership
for Wales

Water leaving water treatment works and in the mains network system will not contain lead. Similarly, private water supplies i.e. a drinking water supply that is not provided by a water company but from e.g. a local borehole or spring are unlikely to contain lead. Where lead is found in tap water, it usually comes from old lead pipework connecting the property to the water supply or in the internal plumbing of the property. Up to the 1970s, lead was a widely used material for making water pipes and tanks and so can still be found in properties built before 1970 that have not been fully modernised.

Lead may also be present in water if lead solder has been used for jointing copper pipes in internal plumbing. The use of lead solder for drinking water system plumbing has been illegal since 1988. There are strict regulations⁽¹⁾ governing the maximum amount of lead allowed in drinking water. In December 2013, the existing limit for lead in drinking water in the UK will reduce from the standard of 25 microgrammes per litre to 10 microgrammes per litre (that is from 25 parts per billion to 10 parts per billion).

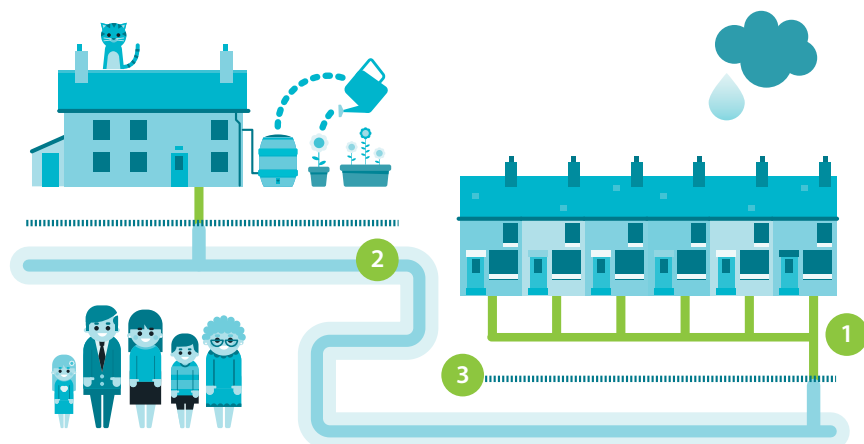
A great deal of sampling is done by water companies at private properties in Wales and Hereford to check lead levels in the tap water. In only a very small number of these properties is lead detected and of those, only a few will breach the limit for lead as a result of the length or condition of their lead pipes.

In general, the longer water is left to stand in lead pipes or tanks, the more likely it is that traces of lead will be found in the water.

If your water is supplied by a water company a small diameter service pipe will connect your home to the water main in the road. The section of the service pipe from the water main to the boundary of your property is known as the communication pipe and is the responsibility of the water company. There will be a stop tap on this pipe in a chamber near the boundary of your property, if you have a water meter this will also be in this chamber. The section of pipework that leads from this stop tap into your property is known as the supply pipe and is the responsibility of the property owner. If you rent your home the pipes are the landlord's responsibility (unless your rental agreement states differently).

For properties served by a private water supply the responsibility for all the pipework that is from the supply point to the tap, will be that of the property owner. Again, if you rent your home the pipes are the landlord's responsibility (unless your rental agreement states differently).

For some older properties, especially terraced houses, a common supply pipe provides water to several houses from a single connection to the water main (as shown in the picture opposite). In this case the property owners have joint responsibility for the supply pipe.



1. Customer responsibility 2. Water Company responsibility 3. Property boundary

⁽¹⁾ The Water Supply (Water Quality) Regulations 2010

Identifying lead pipes

If your house was built before 1970 and it has not been modernised since it is possible that it may have lead pipes. If you are unsure, you can make a few simple checks:

- Find where the water pipe runs into your property; this is normally at the internal stop tap which is usually under the kitchen sink.
- Check along as much of its length as possible to see if it is made of lead - unpainted lead pipes are dull grey in colour and soft but if you gently scrape the surface with a knife, you will see a shiny, silver, coloured metal beneath.

If your house was built after 1970 or the plumbing has been modernised since then you will probably have one of the following pipe materials:

- Copper - bright, hard and dull brown.
- Plastic - predominantly blue but may be white, grey or black.

Lead can also be picked up from pipe joints that have been soldered with lead. The use of lead-based solder on drinking water plumbing systems became illegal in 1988.

If you are concerned you may wish to have your water tested for lead content if so please contact your water company if you have a mains water supply or your local authority if you have a private water supply. Some water companies for example Dŵr Cymru, offer free lead tests to customers on request.



If you do find lead pipes in your property it is possible to reduce lead levels in the short term by following some simple precautions before using the water for drinking or cooking.

- Don't drink or cook with water that has been standing in pipes for a few hours such as overnight or if the house has been empty for the day. Run water from the cold tap used for drinking water until a washing-up bowlful of water is collected. This should be enough to clear around 40m of pipe so if your house is more than 40m from the street then you may need to run the water for a little longer. This water need not be wasted, for example you could collect it for watering your plants.
- Don't use hot water from the hot water tap for drinking or cooking as hot water can dissolve the lead in the pipes. Always use water from the cold water tap for drinking water or cooking. Never make up infant formula with hot water from the tap.

But the only way to be absolutely sure that lead levels in your water are eliminated completely is to replace any lead pipes in your property with copper or plastic pipes that are approved for use with drinking water and by making sure that you or your plumber uses lead-free solder.

If you decide to replace the lead pipework to your property, please contact your water company who will ensure that the section of the service pipe that is their responsibility (communication pipe) is replaced if it is found to be lead.

Health effects

The health effects associated with exposure to lead are well known and understood.

Lead is a harmful toxic heavy metal; its toxicity most frequently results from ingestion or inhalation. Exposures to high levels of lead can have adverse effects on human health.

Short-term exposures to high levels of lead can cause a metallic taste in the mouth and symptoms of abdominal pain, sickness, loss of appetite, low blood pressure, kidney and liver damage. Longer-term exposures can cause headaches, irritability, tiredness, muscle fatigue and can damage a child's developing brain. Pregnant women and small children are most vulnerable to the effects of lead exposure.

Lead is a cumulative toxin meaning that concentrations of lead within the body can build up over time. It is therefore sensible to ensure that exposures to lead are kept to a minimum.

If you are concerned about the health impacts associated with lead exposure and would like further advice, residents in Wales should contact your local Public Health Wales Health Protection Team, Contact details can be found on the following website: wales.nhs.uk (search for Health protection Team).

Residents in Hereford should contact: hpa.org.uk.

Where can I get additional advice and information about lead?

Further information about lead can be found by:

- Visiting the website of your water supplier.
- Contacting your water supplier or local authority.
- Visiting the Drinking Water Inspectorate website at dwi.gov.uk.
- Visiting the Water Regulations Advisory Scheme website wras.co.uk for advice on the use of acceptable solders and fluxes and approved pipe materials.
- Visiting Public Health Wales publichealthwales.wales.nhs.uk.
- Hereford residents should visit hpa.org.uk.

Also, have a look at the publication from Water UK called 'Looking After Water in Your Home' which can be found at this link: water.org.uk.

This leaflet has been produced by the Water Health Partnership for Wales (and Hereford) which is a public health initiative that brings together relevant organisations and agencies to work together on public health and water related issues.

A large number of organisations and agencies are involved in this Partnership including:

Welsh Government
Health Boards
Local Authorities
Public Health Wales
Consumer Council for Water Wales
Drinking Water Inspectorate (DWI)
Natural Resources Wales

Water Companies:
Dŵr Cymru Welsh Water,
Severn Trent Water and
Dee Valley Water

