



guardians of drinking water quality
DRINKING WATER INSPECTORATE

Lead in drinking water

Is Lead Harmful?

Lead used to be common in the environment due to its widespread historic use in petrol, paint and water pipes, as well as its natural occurrence in soils as a consequence of local geological conditions. From the 1970s onwards these uses of lead have been prohibited across Europe and the human health risks have been studied extensively and are generally well understood.

The health risks relate to the way lead can build up in the body. Those at particular risk are infants and children because lead can have an adverse impact on mental development. Lead may also be a factor in behavioural problems. Worldwide it is recommended that human exposure to lead is kept to a minimum and lead is therefore controlled in air, soil, food and water. A full report on the internationally agreed health based knowledge about lead can be found on the [World Health Organisation website](#).

How Does Lead Get Into Drinking Water?

Occasional lead occurs naturally in groundwater however, this is a rare situation in the UK and lead is not present in the water within our wider public water supply network. However before 1970, many smaller water pipes were made from lead. Although lead pipes have not been permitted for this purpose for four decades, in older properties it remains possible that part, or all, of the underground service pipe connecting the water main in the street to your kitchen tap may be made from lead. It is also possible that some original lead plumbing remains within older properties especially if the kitchen has not been modernised.

In hard water areas the scale that forms on the inside of pipes protects against the dissolution of lead from the pipe into the water. However in soft upland water supply areas there is a greater likelihood of lead from pipes being present in the water. Where this risk exists, water companies treat the water with orthophosphate and this reduces the problem significantly. None the less, particles of lead may build up in these older pipes and intermittently appear in tap water.

A less common cause of lead in drinking water is the illegal use of lead based solder to join together sections of copper pipe. Lead solder is still sold for use on closed central heating systems and mistakes occasionally happen whereby unqualified plumbers or householders use lead solder on drinking water pipes contrary to the law.

For all these reasons, the amount of lead in drinking water at a particular property may sometimes be above the health based standard.

How do I know if there are lead pipes in my home?

If your home has been modernised since 1970 and all of the pipes from the water company's stop valve outside your home to the kitchen tap replaced, there should be no lead pipe on your property.

If your home was built:

- **before 1970 it may have lead pipes**
- **after 1970 it is unlikely to have lead pipes**

If you are unsure, you can make a simple check:

- Inside your home

Look in or behind the cupboards in your kitchen. You may also need to look in other places, e.g. the cupboard under the stairs. Find the pipe leading to the kitchen tap. Check if it is lead along as much of its length as possible. Unpainted lead pipes appear dull grey. They are also soft and if they are gently scraped you will see the shiny, silver-coloured metal beneath. You can ask a plumber to carry out this check for you.

- Outside your home

Open the flap of the stop valve outside your property. Examine the pipe leading from the stop valve to the property. You should ask your water company or a plumber to carry out this check for you as in some cases access may be difficult.

Other pipe materials in common use are:

- **copper** - bright, hard and dull brown
- **iron** - dark, very hard and may be rusty
- **plastic** - typically blue but if older it may be grey or black.

Who is responsible for the pipework?

The part of the service pipe that links the water main in the street to the stop valve outside your property belongs to the water company. This is known as the communication pipe.

The part of the service pipe leading from the stop valve outside your property to the point where it enters your home is the responsibility of the owner. This is known as the private or supply pipe.

All the plumbing inside your home to the kitchen tap is the responsibility of the property owner.

How can I find out if there is lead in my drinking water?

If you suspect that your home has lead pipes you can ask your water company to test the water at your kitchen tap for lead. Water companies take daily samples from consumer taps for lead at random and they will give you a report of this testing in your local area (water supply zone) free on request. They will also tell you whether they are treating the water to minimise the likelihood of lead pick up. Your water company will be aware of and will tell you if you live in an area with a history of lead pipes having been used and not removed. You can also have your water sampled by a private laboratory for which there would be a charge and this can be through your local authority environmental health service. If you live in social housing or you are a tenant, your first point of contact for further advice is also environmental health.

What do I do if lead is a problem in my property?

In the short term if tests have confirmed a risk then you should not drink water that has been standing in the pipes for long periods, for example, overnight, or if no one has been at home during the day. Instead, before you draw off water for drinking and cooking, put the plug in the sink or put a kitchen bowl under the tap, and let the tap run until the sink or bowl is full. This amount will remove standing water in a pipe of up to 40 metres in length. You can then use the kitchen tap as normal.

The above short term measure will protect you and your family but it is a waste of water and you should take steps as soon as practicable to replace the lead pipes between the stop valve outside your home and your kitchen tap. When arranging for this you should notify your water company because they are legally required to replace their communication pipe if all of the following criteria are met:

- test results show the level of lead in your drinking water to be above the drinking water standard of 10 µg/l;
- the owner agrees to replace all lead pipes for which they are responsible;
- the owner requests the replacement of the communication pipe in writing.

When replacing lead pipes make sure this does not reduce electrical safety by removing any earthing arrangements dependent on the pipes. Ask your electricity supplier if in doubt.

Some local authorities offer assistance with removal of lead pipe from social housing.

I am buying a property

Ask your surveyor to include a check of the nature and condition of the outside and internal pipes as part of the survey making special mention of lead. Contact the local water company for information about lead in the water supply zone. Purchasers increasingly make the cost of removing lead pipes part of their negotiations with vendors as to sale price.

Last updated: January 2010