

Lead in Drinking Water – Frequently Asked Questions (FAQs)

Key Messages

- In comparison to fifty years ago, Irish people are now exposed to very little lead.
- Lead has been taken out of paint and petrol and many lead water pipes have been replaced. Lead poisoning is now extremely rare.
- Lead has been removed from our environment because it can have harmful health effects. Regular intake of even low levels of lead can have small health effects.
- The greatest health risk is for young children, infants and babies in the womb.
- Lead gets into drinking water from lead plumbing or lead pipes, either inside a house or building or supplying a house or building.
- Bottle-fed infants are most affected by lead in drinking water because, for the first 6 months of life, all of their food comes from formula made up with drinking water.
- The legal limit of lead in drinking water in Europe has been gradually lowered from 50µg per litre in 1988 to 10µg per litre in 2013.
- Most lead water mains have been replaced but some lead pipes are still in place. Lead levels in some drinking water may therefore exceed the new European limit.
- Most houses do not have lead pipes or plumbing. Houses built up to and including the 1970s may still contain lead pipes. Lead solder and lead fittings may have been used in some houses built after this.
- If you live in a house built up to and including the 1970s and have lead plumbing or lead pipes which have not been replaced, it is possible that there is lead in your drinking water.

If your water has not been tested, you can take precautionary action:

- a) Only use water from the cold water tap in the kitchen for drinking, cooking and making baby formula. If the tap has not been used for many hours, running (flushing) the water before using it for drinking or cooking may lower the level of lead. However, the only way to know if you have lead in your drinking water, and if flushing lowers it, is by testing it.

If your water has been tested and is above the 10 µg per litre lead level:

- a) Follow the steps in point a) above.
 - b) If after running (flushing) the water the level of lead stays above 10 µg per litre, you should use safe drinking water from some other source. This is especially important for bottle-fed infants, young children and pregnant women.
 - c) Even if the level stays above 10 µg per litre, you can use the water for toilet flushing, showering and bathing, laundry and dishwashing
- The best way of dealing with lead in your drinking water is to replace all lead pipes and all lead plumbing.
 - Everybody should try to drink water with as little lead in it as possible.

Where is lead found and what is it used for?

- ▶ Lead is a metal which is found in soil, rocks, air and water.
- ▶ Lead has many different uses. It is used for making batteries, roofing material and metal products such as pipes and solder (used for joining pipes).

How can I be exposed to lead?

- ▶ Lead can be inhaled (breathed in), if present in air or dust, and can be swallowed, if present in food or water.
- ▶ Over the past few decades, lead has been removed from petrol and paint. Since then Irish people, in general, are exposed to very little lead.
- ▶ For most people, food is their main source of lead intake.
- ▶ People with lead plumbing and lead pipes in their house or supplying their house can be exposed to lead in drinking water.

How can lead affect my health?

- ▶ Legislation to control the use of lead has meant that acute lead poisoning is now almost unknown.
- ▶ Long term exposure to lead can affect the development of a child's brain leading to problems with learning, behaviour and attention.
- ▶ Lead may harm the kidneys and may contribute to high blood pressure.
- ▶ Lead has also been linked to cancer. It is classified as '*probably carcinogenic*' to humans. This means that we are not sure if it causes cancer in humans but that we know it can cause cancer in animals.
- ▶ Recent scientific evidence shows that regular intake of even low levels of lead can have small health effects, especially on the brain development of infants, young children and babies in the womb. There are many factors which influence a child's brain development, including their physical, social, family and learning environment. These are likely to have a far greater impact than lead.

How does lead get into drinking water?

- ▶ Water does not usually contain lead when it leaves a water treatment plant.
- ▶ Lead can get into drinking water from lead pipes or lead plumbing (including solder and fittings).
- ▶ Lead was sometimes used in water mains pipes. While most of these have been replaced, some lead pipes remain.

- ▶ Lead pipes were also used to connect buildings to the water mains at the stop tap outside (also called the external stopcock).
- ▶ Lead pipes, lead plumbing and lead-lined water tanks were sometimes used in buildings built up to and including the 1970s.
- ▶ Buildings built up to and including the 1970s may have lead in their drinking water if the inside lead plumbing or the outside lead pipes have not been replaced. These buildings should be checked for lead plumbing both inside and outside by a qualified plumber.
- ▶ Lead pipes are not usually found in buildings built since the 1980s. However, lead solder and lead fittings may have been used in more recently-built buildings.
- ▶ The chances of lead getting into drinking water from lead pipes and lead plumbing can depend on the chemical make-up of the water. Some types of water such as soft water and warm water can pick up lead more easily.
- ▶ By changing the chemical make-up of the water, water suppliers may be able to reduce the amount of lead which is picked up from lead pipes and lead plumbing.
- ▶ The level of lead in drinking water is more likely to be higher if the water is stagnant (still or stationary in the pipe).

Why has lead in drinking water received so much attention recently?

- ▶ The legal limit of lead in drinking water in Europe has been gradually reduced, from 50µg per litre* in 1988 to 10µg per litre in December 2013.
- ▶ This was done as part of a greater plan to reduce everybody's lifetime exposure to lead to the lowest possible level.
- ▶ However, some drinking water may not yet meet this new limit.

Who is most affected by lead in drinking water?

- ▶ Because lead affects the developing brain, the risk is greatest for young children, infants and babies in the womb.
- ▶ Bottle-fed infants are most affected by lead in drinking water, because for the first 6 months of life, all of their food comes from formula made up with drinking water. They also drink a lot of liquid for their body weight.
- ▶ Children and infants absorb more lead than adults.

What is the HSE's health advice on lead in drinking water?

- ▶ In the past, lead in drinking water was not considered a health risk unless it reached a certain level. The World Health Organization (WHO) has looked at the evidence again and has now changed this advice.

* micrograms per litre (µg/l) is sometimes known as parts per billion (ppb).

- ▶ No level of lead in drinking water is now considered to be completely safe.
- ▶ It is best to keep everybody's exposure to lead, from all sources (drinking, eating, inhaling), as low as possible.
- ▶ Everybody should, therefore, try to drink water with as little lead in it as possible.

Is drinking water tested for lead?

- ▶ Water supplies that come under the European Union Drinking Water Regulations are tested for lead. Testing is usually carried out at the kitchen tap of homes or buildings which are randomly chosen for testing. However, most individual buildings are not tested. Also, some small private water supplies are not usually tested.

How do I know if there is lead in my drinking water?

- ▶ The best way to find out if there is lead in your drinking water is first to see if you have lead pipes or lead plumbing.
- ▶ If you are on a public supply and have had a meter installed, you can obtain information about whether or not lead was found during the meter installation. Contact Irish Water at <https://www.water.ie/help-centre/contact-us/>
- ▶ A qualified plumber could help you. See 'Drinking Water Consumer Advice Note – Lead' at <http://www.hse.ie/water>
- ▶ If you find lead plumbing or lead pipes, either inside your house or building or outside your house or building, you should have your drinking water tested.
- ▶ The level of lead in drinking water can be different in different buildings on the same water supply. The level of lead depends on:
 - whether there are lead pipes or lead plumbing in the building, or whether these have been replaced
 - the length of lead pipes in the building
 - whether the building has an individual connection to the water main or has a shared connection with other buildings
 - the amount of water used (dishwasher, showers, washing machine)
 - the softness and temperature of the water.

How can I get my water tested?

- ▶ If you wish to get your water tested for lead you should contact your water supplier for advice:
 - Public Water Supplies – Irish Water <https://www.water.ie/help-centre/contact-us/>
 - Private Water Supplies – your group water scheme committee or the owner of your private supply (this might be the developer of a private estate, for instance)

- Private wells – a number of private and public laboratories offer testing of drinking water.

If I find lead in my drinking water, what should I do?

- ▶ If the level of lead from the cold water tap in the kitchen is above the legal level (10 µg per litre), running (flushing) the water before using it for drinking or cooking may lower the level of lead. However, the only way to know if flushing works is by testing.
- ▶ Your water supplier should advise you on appropriate testing, flushing and re-testing. This will tell you how much water needs to be run off before using it for drinking or cooking.
- ▶ Whether running the water reduces the level of lead in the water, or not, will depend on the length of the lead pipes or on where the lead is coming from in the plumbing system.
- ▶ If, after running the water, the level of lead stays above 10 µg per litre, you should use safe drinking water from some other source. This is especially important for bottle-fed infants, young children and pregnant women.
- ▶ You should tell all users of your property, including lodgers, long-term visitors, people renting or buying your property, of steps that can be taken to keep their intake of lead in drinking water as low as possible.
- ▶ The long term solution to dealing with lead in your drinking water is to replace all lead pipes and all lead plumbing. The building owner is responsible for pipes from the mains stop tap or external stopcock and for internal plumbing, while the water supplier is responsible for the water mains pipes up to the external stopcock.
 - See 'Drinking Water Consumer Advice Note – Lead' for information on pipe layout and ownership. <http://www.hse.ie/water>
 - Before replacing lead pipes and lead plumbing in your ownership, you should contact your water supplier (see above). Replacing all lead pipes in a co-ordinated way is usually the best approach.

I think I might have lead in my drinking water but my water has not been tested, what should I do?

- ▶ If you have lead pipes or lead plumbing, you may have lead in your drinking water. If your water has not been tested, you can take precautionary action.
- ▶ Only use water from the cold water tap in the kitchen for drinking, cooking and making baby formula. This is called the 'rising main'. It comes straight into your house from the water mains. The water from this tap is usually moving and flowing and has not been stagnant (still or stationary). Water from other taps in your house may have been stagnant in tanks and pipes for longer periods of time and, therefore, more likely to have a higher level of lead.

- ▶ If the tap has not been used for several hours, running (flushing) the water before using it for drinking or cooking may lower the level of lead.
- ▶ However, the only way to know if you have lead in your drinking water, and if flushing lowers it, is by testing.
- ▶ If your pipes are long or have a complicated layout, perhaps connected to other properties, flushing has been known to increase the level of lead in your drinking water.

Is there anything else I need to know about lead and drinking water in general?

- ▶ Boiling the water does not remove lead. However, boiling may slightly increase the level of lead in drinking water.
- ▶ Employers and managers of buildings used by the public (schools, crèches, hospitals, health centres, etc) are responsible for ensuring that the drinking water complies with the lead limit of 10 µg per litre.

If my water has high lead levels, is it safe to take a bath or shower?

- ▶ Even if the lead level is above 10 µg per litre, you can use the water for bathing and showering, toilet flushing, laundry and dishwashing.

What alternative sources of drinking water could I use?

- ▶ It is important that any alternative source of drinking water is safe.

Private wells:

- ▶ Lead in drinking water is usually from lead plumbing and lead pipes inside or just outside the house. Switching to a well, but using the same plumbing or pipes, is therefore unlikely to bring down the level of lead in your water.
- ▶ If you use water from a private well, you should check that it is safe to drink.
<http://www.epa.ie/water/dw/hhinfo/>
- ▶ Further information on risk of illness from private wells can be found at:
<http://www.hse.ie/water>

Bottled water:

- ▶ Bottled water can be used for drinking and cooking.
- ▶ It can also be used to make up infant formula.
 - The World Health Organization recommends that babies should be breastfed for the first six months of life.
 - It is best not to use bottled water labelled as 'Natural Mineral Water' to make up infant feeds as it can have high levels of sodium (salt) and other minerals.

- All other bottled water is regulated to the same standards as the drinking water from the cold water tap in your kitchen, if your water supply is a regulated supply.
 - If bottled water is used to make up infant formula it should be boiled (rolling boil for 1 minute) once, and cooled in the normal way. Do not reboil.
- ▶ Ready-to-use infant formula that does not need added water can also be used.

Where can I get further advice?

On your water service and test results:

- a) From Irish Water <https://www.water.ie/help-centre/contact-us/>
- b) From the Environmental Protection Agency (EPA) <http://www.epa.ie/water/dw/>
- c) From the National Federation of Group Water Schemes <http://www.nfgws.ie/Home>
- d) A qualified plumber can advise on the need for lead pipe replacement.

On health issues:

- e) The Health Service Executive (HSE) and the Environmental Protection Agency (EPA) Drinking Water Consumer Advice Note No. 1 – Lead (Pb)
<http://www.hse.ie/water>
- f) The HSE and the EPA Joint Position Paper. Lead (Pb) in Drinking Water
<http://www.hse.ie/water>
- g) The HSE leaflet Risk of Illness from Well Water
<http://www.hse.ie/water>
- h) From your local HSE Department of Public Health
<http://www.hse.ie/publichealth>
- i) From your local HSE Environmental Health Service
<http://www.hse.ie/eng/services/list/1/environ/Contact.html>
- j) From your GP if you are concerned about existing health problems or symptoms.