

# Lead in drinking water



NI Water has a 25 year programme to identify and replace lead pipes within its infrastructure. As part of this programme customers are informed when lead communication pipes have been replaced and are encouraged to replace their lead supply pipework. At the request of a customer, NI Water will replace the communication pipe free of charge provided that the customer replaces their supply pipe.

We tackle the problem in two ways: by chemical treatment and the replacement of lead pipes.

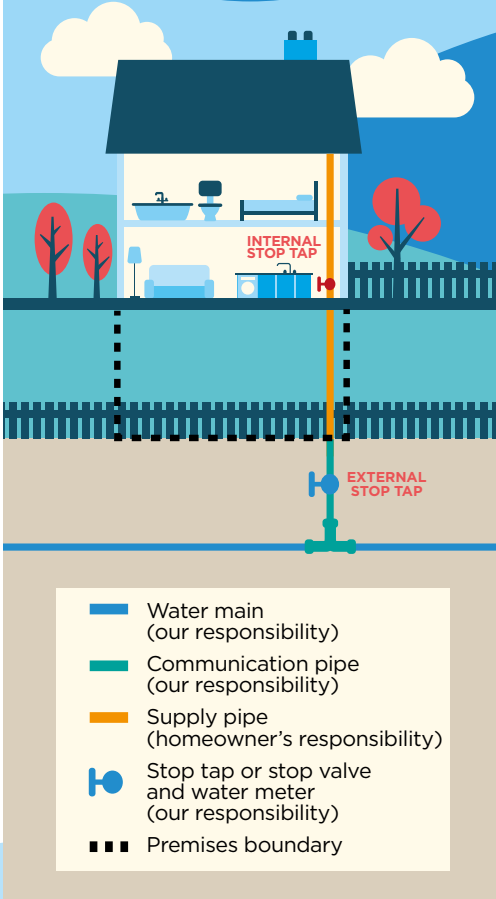
### Chemical Treatment

To meet the new targets, we have agreed with the Drinking Water Inspectorate to add a chemical, orthophosphoric acid, to the water supply at our water treatment works across Northern Ireland. Orthophosphoric acid helps to prevent lead dissolving into the water supply and it has been used by the water industry to reduce dissolved lead in water for over 20 years. Orthophosphoric acid is a common additive in many soft drinks at concentrations up to 100 times higher than that used in the treatment of drinking water.

### Replacement of Lead Pipes

Properties are typically supplied through a service pipe which consists of a supply pipe (customer's responsibility) and the communication pipe (NI Water's responsibility). The division of responsibility for the service pipe between NI Water and property owners is as shown below:

- **Service Pipe:** Pipe connecting the watermain to the property;
- **Communication Pipe:** NI Water owned section of service pipe, from the watermain to property boundary or stopcock;
- **Supply Pipe:** Customer owned section of service pipe, from property boundary or stopcock to property.



**Lead occurs naturally in our environment and can be present in air, food, water and soil. Lead has long been recognised as being harmful, especially for unborn babies and young children, so various measures have been introduced to reduce everyone's exposure to it. Worldwide it is recommended that human exposure is kept to a minimum and therefore controlled in air, soil, food and water. For instance, lead has been reduced in paint and petrol.**

Our aim is to contribute to public health by improving drinking water quality. This leaflet explains what NI Water is doing to reduce lead levels in our drinking water. The limit for lead in drinking water is now 10 micrograms per litre (European Drinking Water Directive). This standard applies to cold water drawn from the tap used for normal drinking water purposes.

Water leaving our treatment works and travelling through the water mains contains only tiny traces of lead. If lead is present in a customer's drinking water, almost all of it will have been dissolved from lead pipes and fittings between the mains and the customer's tap.

Whilst most of this pipework is the customer's responsibility, we must, by law, treat the water supply so it dissolves as little lead as possible.

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.



## Questions and Answers

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

If your home has been modernised since 1970 and all the pipework has been replaced between the NI Water stop valve outside your home and the kitchen tap, there should be no lead in your property.

If you are unsure, you can make the following simple checks:

#### Inside your home

- Look in or behind the cupboards in your kitchen. You may also need to look in other places, such as 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 are dull grey, and the surface feels soft. If you scrape the surface gently with a kitchen knife, you will see the shiny, silver-coloured metal beneath.

#### Outside your home

- Open the flap of the stop valve outside your property. Examine the pipe leading from the stop valve to your property. If you can, scrape its surface gently with a knife. (In some cases it may be out of reach.)
- Other pipe materials in common use are:
  - Copper – bright, hard and dull brown
  - Iron – dark, very hard and may be rusty
  - Plastic – may be grey, black or blue.

### What can I do to reduce the lead levels in my water?

If you have lead pipes between the stop valve outside your home and your kitchen tap, the best solution is to replace it with copper or plastic pipes. Make sure that the removal of lead pipes does not reduce electrical safety – if your electrical supply is earthed to your pipes, it will need to be earthed by another method. If in doubt, ask an approved electrical contractor.

If you do replace your part of the service pipe, you can ask us to replace our part between the water main and the boundary of your property. We will do this free of charge.

You can also take some simple short-term precautions to reduce the risk of lead in your drinking water:

- Do not drink water that has been standing in the pipes for long periods, overnight or for several hours while no one has been at home.

In these circumstances, clear the water that has been standing in the pipes by flushing a toilet or filling a bowl from the kitchen cold water tap. (If you have more than 40 metres (132 feet) of lead pipe, you will need to run more than a bowlful of water.) Don't waste that water – use it on the garden or for something else other than drinking or cooking.

You can then use the water from the cold kitchen tap as usual for drinking and cooking purposes.

- Check that any hot water pipe which runs alongside or across a cold water pipe is properly insulated to prevent the cold water pipe from heating as this will increase the risk of lead dissolving into the water supply.

## Can I measure the amount of lead in my water?

Following testing of the sample we inform you if lead concentrations are higher than 10 micrograms per litre, it will be up to you (or your landlord if you do not own the property) to decide whether to replace any lead pipework on your property. You (or your landlord) will be responsible for paying to replace these pipes.

## What is Northern Ireland Water doing to reduce lead in my drinking water?

In many parts of the UK, including Northern Ireland, orthophosphoric acid is used to prevent lead dissolving into the water supply.

## Will I notice any effects in my water supply?

Orthophosphoric treatment has not produced any harmful effects in the UK.

You may have noticed some slight changes in the coating left on the inside of your kettle, but orthophosphoric acid will not change the taste, colour or odour of your drinking water.

## What will orthophosphoric acid do to my tropical fish?

At such low levels, nothing.

## I have replaced my lead pipes. Can I opt out of chemically treated water?

No. We apply the chemical at the treatment plant that services your mains water supply.

## Does orthophosphoric acid do any damage to the environment?

The introduction of orthophosphoric acid to drinking water will add to the overall levels of phosphates in the environment. Northern Ireland Water have set a maximum dose rate to ensure treatment is effective and that phosphate levels are kept as low as possible.

High levels of phosphates can increase algae growth in lakes and estuaries. Algae use up oxygen and reduce light in the water: this can affect the health and diversity of fish and plant life. Our larger wastewater treatment works have treatment stages, which reduce the levels of phosphate being discharged to the environment.

On request we will take a sample from your tap and test it for lead. To arrange this, please contact 03457 440088.

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