

# Lead in Drinking Water

## Enhanced Surveillance Program for Independent Schools and Private Nurseries

Whilst lead affects us all to some degree or other, lead pipes and tanks continue to remain in place in the drinking water supply route in some premises making it a particular concern. Where it does exist, the people most at risk are children, babies and pregnant women as it impairs development of the child. The Drinking Water Quality Regulator for Scotland (DWQR) is working with a range of influencers, stakeholders and consumer groups, to address the importance of removing lead service pipes and plumbing fittings wherever they are found. Please see: <http://dwqr.scot/information/lead-in-drinking-water/>

It is clear for many consumers that lead is not an issue and there are many who believe it was a problem resolved many years ago. It is generally taken that premises built before 1970 are most likely to have had their water supply originally delivered through lead pipes. The good thing is that over time, a proportion of these have had those pipes replaced. For some property owners however, the issue has not gone away and it is something they need to think about.

One of the key areas of concern is the exposure of children to lead in drinking water. Checks have been made of these premises in the past but they will have been against previous standards for lead. The standard has progressively reduced over the years and currently it is 10µg/l, which is also expressed as 10 parts per billion in some publications. There are indications however, that the standard may reduce further to 5µg/l. As such, it is important that DWQR can have confidence that actions have been taken to remove any lead pipes and tanks in the water supply route to drinking water points and food preparation areas within school and nursery premises.

All Local Authorities have undertaken investigations into their own premises and Scottish Water has been commissioned to carry out sampling within all independent schools and privately owned nurseries. These initiatives have been progressed with the support of the Care Inspectorate for Scotland, National Day Nursery Association and the Scottish Council of Independent Schools

Scottish Water provides the public water supply in Scotland and it has responsibility for the part of the service pipe and connection within the street. Where they encounter lead pipes within their ownership, they automatically replace those with modern materials.

All school and nursery premises constitute public buildings where members of the public may consume drinking water. There are established mechanisms, as required by the Public Water Supplies (Scotland) Regulations 2014, between Scottish Water and Environmental Health teams, to enforce remedial works. There are similar provisions covering enforcement in Private Water Supplies Regulations where this is the means of water supply.

Supply pipes and any pipes internal to the property are the responsibility of the property owners or by the number of owners where there is a shared supply. The DWQR urges those responsible for properties to remove all lead pipes and fittings from the drinking water supply route to protect health.

## Frequently Asked Questions

### 1. How can there be lead in the drinking water?

Lead in the environment comes from a variety of sources and may be present in air, food or water. Lead does not occur naturally in significant concentrations in water supplies in Scotland. The problem arises when drinking water comes into contact with lead supply pipes, lead tanks, lead solder joints on copper pipes, or inferior quality brass fittings and taps, particularly for longer periods (e.g. overnight/ weekends / holidays periods). This can result in high lead levels in the drinking water supply. All drinking water is required to meet the standard for lead of 10µg/l (micrograms per litre), which is also expressed as 10 parts per billion in some publications.

### 2. Why would there be lead in my building?

For a long time, generally up to 1970, lead was used for some water pipes. Part, or all, of the service pipes connecting the water main in the street to the kitchen tap in older properties may be made of lead. There have also been cases where lead in non-approved solder used in plumbing joints in more modern buildings has caused failures of the standard at the tap. Scottish Water provides information and advice about the illegal use of lead solder in a briefing note for developers. This can be viewed on their website, <http://www.scottishwater.co.uk/>

### 3. What checks are carried out for lead?

Scottish Water is required to treat water supplied to zones where it has been demonstrated there is a wider risk of failure of the lead standard. This is achieved by adding small amounts of orthophosphoric acid to the supply and optimising the dosing to provide a coating to lead pipes and thereby reduce the plumbosolvency effect. Scottish Water carries out regular monitoring for lead in all the public water supply systems to meet requirements of Regulations. Over the past three years there have been 15, 13 and in 2017, 14 failures of the standard in the required regulatory monitoring. In all cases, there was lead within the domestic plumbing system but Scottish Water also needed to replace six of its own communication pipes as a result of the failing samples.

In private water supplies, the local authority carries out sampling and pursues any issues of water quality with the particular owners and users of the affected supply and property. There were 90 failing samples in all types of PWS in 2017.

### 4. Why are schools and nurseries being tested for lead?

One of the key areas of concern is the exposure of children to lead in drinking water. Checks may have been made of these buildings in the past but they will have been against previous standards for lead. The standard has progressively reduced over the years, with first 50µg/l and then 25µg/l being in force. The current standard of 10µg/l became effective in December 2013. There are indications too, that the standard may reduce further, to 5µg/l. As such, it is important that DWQR can have confidence that actions have been taken to

remove any lead pipes and tanks in the water supply route to drinking water points and food preparation areas within school and nursery premises.

All Local Authorities have undertaken investigations into their own premises and Scottish Water has been commissioned to carry out sampling within all independent schools and privately owned nurseries. The Scottish Council of Independent Schools, Care Inspectorate and National Day Nursery Association are supportive of the program and have asked to be advised of any failures in premises.

### **5. Why are my premises being tested?**

We are looking to have an assurance that all these public buildings which host delivery of a service to the most vulnerable group of consumers have been tested. Scottish Water can investigate under regulation 17 of *The Public Water Supplies (Scotland) Regulations 2014*, if they have reason to believe that the water is likely to fail to meet the wholesomeness requirements, which includes exceeding the standard for lead. Generally, in relation to lead, the age of the premises provides a significant reason to believe there may be lead present. Also, on the basis that some modern premises have been found to have sample failures due to the use of illegal solder and/or the choice of fittings, it is pertinent that all premises take part in this surveillance program.

### **6. Why are my premises a public building?**

Unlike the traditional view of what a public building is, drinking water legislation is concerned with "premises where water is supplied to the public" and by definition of the services delivered in schools and nurseries. Your premises fall into this category.

### **7. Are there legal powers to come into my premises?**

Regulation 40(1) of the 2014 Regulations sets out Powers of Entry. Scottish Water can enter premises for the purpose of taking samples if they are given consent or if they have given more than 24 hrs notice, which will have been provided through initial contact letters. There are also legal powers to undertake investigations within the premises if failures of the lead standard occur.

### **8. How do I know if lead could be present in my drinking water?**

If you have an older property, checking pipework where the pipe enters into buildings, most commonly under the kitchen sink, will often show whether or not they are lead. Lead pipes will be dull grey in colour, easily scratched to reveal shiny silver metal and have slight bulges at joints. Any potential problems in newer properties with fittings containing lead are really only found with the testing of a water sample. Information on this can be found on Scottish Water's website.

Generally, anyone with a concern that lead may be present in their supply can contact Scottish Water and request that they take a sample of water from their property and inform them of the results.

## **9. What happens if a sample fails?**

Scottish Water will carry out an inspection of the connection to the public water mains for which they are responsible (i.e. pipe work before the property boundary stopcock – the communication pipe) to confirm the absence of lead fittings or pipes. If these are found they will be replaced free of charge.

If Scottish Water do not find any lead in the pipe work for which they are responsible, or if the tests on any resamples fail after they have removed any lead pipes beyond the boundary, it suggests that the lead problem lies within your premises, or in the supply pipe from the boundary stopcock and it is the responsibility of the property owner to remedy this.

## **10. If a sample fails, can I still use the water supply?**

If a sample fails, you will be advised not to use the water supply for drinking or cooking purposes and bottled water will be provided by Scottish Water until such time as they determine there is no lead in the pipework for which they are responsible, or have undertaken replacement of any lead materials in their pipework.

If tests on any resamples fail after they have removed any lead pipes beyond the boundary, it suggests that the lead problem lies within pipework for which the property owner is responsible and bottled water will be required to be used until the issues within the domestic distribution system are resolved. In these circumstances it would be the responsibility of the person responsible for the site to arrange for the continuing supply of bottled water and its use. Scottish Water may be approached to provide further bottled water supplies and this would be on a chargeable basis.

## **11. What does it mean for people's health?**

The risk to health from drinking water in school premises is low but this programme is being undertaken to ensure the lead exposure is as low as reasonably possible and that the standard is being met. Lead levels in water are highest first thing in the morning when the water has been standing in the pipes overnight. This decreases in a matter of minutes when the taps are flushed. In addition, the risk is less where children will only drink a small proportion of their daily water consumption at school. However it is important to ensure that children and pregnant women are not exposed to lead if at all possible.

## **12. How do things get fixed?**

If the indications are that there is a problem within the pipework for which the property owner is responsible Scottish Water will progress with an investigation of the private distribution system within the premises to determine the cause and extent of the failure(s). This would identify whether particular branches or elements of the private distribution system were confirmed as having lead materials present (or suspected to have where reasonable access to inspect is not possible). The person responsible for the site should engage a competent plumber and/or other building services contractor as necessary to investigate further and effect the replacement of any lead materials found.

### **13. Who is responsible for the costs?**

The costs of sampling and Scottish Water's investigations are covered through this surveillance program. The costs of any final determination of the location of lead materials and/or the replacement of pipework and fittings would be borne by the person responsible for the site.

Ultimately and irrespective of the results of this water sampling programme, the person responsible for the site is required to maintain their private distribution system such that it does not cause any failure of water quality standards. If you are aware of or discover any lead in your drinking water system, you are strongly advised to eliminate this to ensure that lead exposure is kept as low as possible, whether or not there is evidence of regulatory standards breach.

### **14. Are there any powers to enforce repairs?**

The Regulations make provision for enforcement of works required to restore water quality and any Notices of enforcement would be served by the local authority. Scottish Water are obliged to notify the local authority of any failures of the lead standard and to report on their investigations. The local authority would take a view on the need for enforcement action in consideration of the commitment shown to affecting any necessary repairs or further investigations.