

Looking after WATER in your home The Consumer's Guide



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Tap water in the United Kingdom is amongst the safest and highest quality in the world.

The water industry has produced this guide to help you enjoy the quality of tap water. It answers all the questions about how to look after water in your home.

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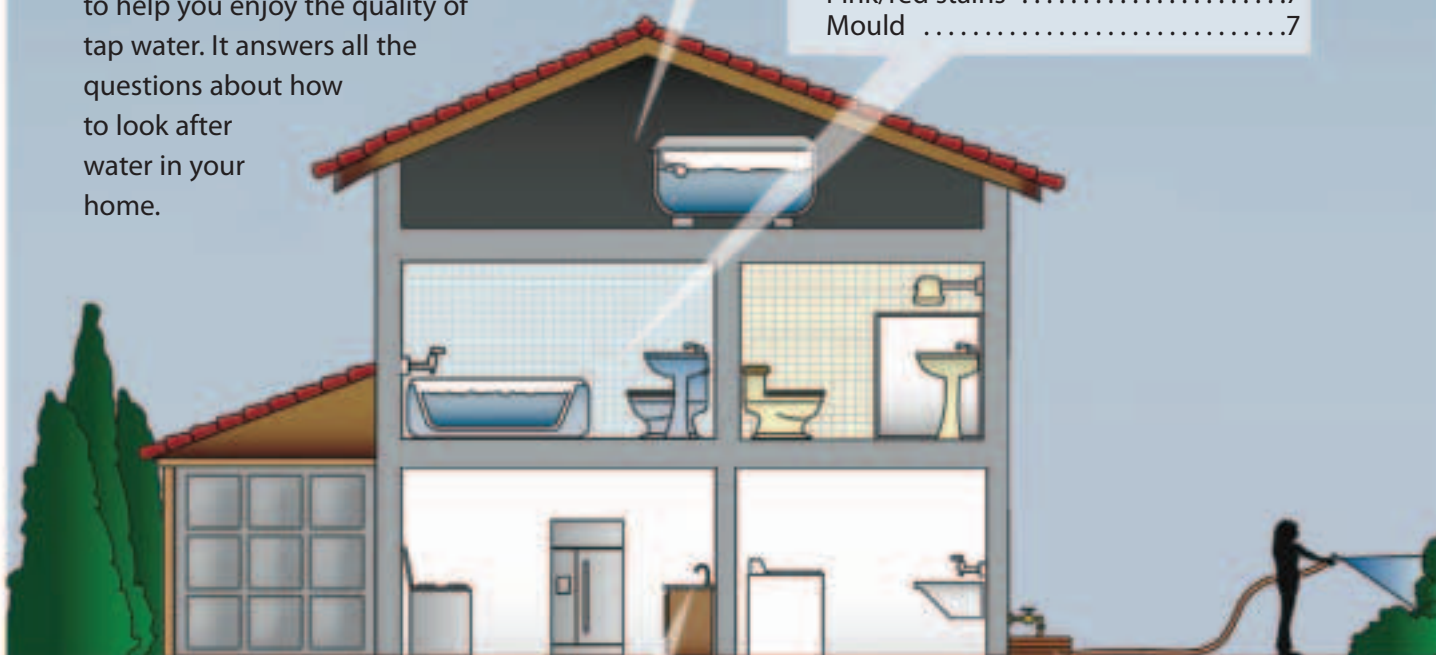
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In the kitchen

TAP HYGIENE

It is important that taps that are used for drinking water are kept clean. Whilst the water coming to your tap is safe, many bacteria can live in the kitchen and some can grow both on the outside of the tap and inside the lip of the spout. They are not visible to the naked eye, but the tap can become contaminated from food or items washed in the sink. For this reason, you should never allow food to come into contact with the end of the tap.



TASTE AND ODOURS

Customers occasionally report that their tap water has an unpleasant taste or odour. These complaints are often of a chlorine smell or a chemical, bitter or medicinal taste. Sometimes this taste occurs only in boiled drinks, especially tea, or when a glass of water has stood for some time.

- Regularly clean household taps thoroughly using a mild household disinfectant, ensuring that you wash inside the spout
- After cleaning the tap, run it for a few moments to remove any remaining disinfectant
- Don't leave the dishcloth on the tap to dry.

There could be several causes, the commonest of which are given below. However, if you get a sudden or unusual taste or smell with your drinking water contact your water company so that they can investigate the problem.

Chlorine

Chlorine is added during water treatment as a disinfectant to kill any disease producing organisms. A small residual amount of chlorine is generally present in the treated water that reaches your tap. This is to ensure that the quality of the drinking water is maintained through the pipe network.

Some people are more sensitive than others to the smell or taste of chlorine and may become aware of occasional changes in chlorine levels in their tap water. This could be because the water company has been working on the water mains or is having to supply you with water from a different water treatment works.

If you find the taste of chlorine unacceptable, a good solution is to draw off a jug of tap water and keep this in the fridge. Not only will the chilled water taste better it will lose that chlorine smell or taste. Do keep the jug covered though and don't keep any water in the jug for more than 24 hours.





Taste and odour problems associated with washing machines and dishwashers

Most dishwashers and washing machines are now connected directly to the mains water supply but are sometimes not plumbed in correctly. All connections should include a single check valve (also known as a non-return valve) so that water within the flexible hoses or the dishwasher or washing machine itself, cannot return to the mains supply and reach the kitchen tap. If it does, you are likely to get rubber or plastic tastes and odours in your tap water. Also flexible hoses can deteriorate over time and release traces of

chemicals that can cause 'chemical' type tastes and odours that are particularly noticeable with hot drinks. Fitting non-return valves will prevent this problem.

How can I check if the taste and odour in the water is due to my washing machine or dishwasher?

A simple means of checking if the washing machine or dishwasher is the cause is to temporarily turn off the valves which control the water flow into the machine. Run the tap which you use for drinking water for a short period to clear the pipes and then taste the water. If this solves the taste problem, fit a single check valve (also known as a non-return valve) on the end of the machine hose where it connects to the household pipework. Always ensure that any flexible hoses and tap washers are Water Regulations Advisory Scheme (WRAS) approved. Your water company, plumbing supplier or DIY store should be able to advise you.

Look for the 'WRAS Approved' logo. This shows products that water companies have checked and endorsed as complying with regulations to ensure they do not affect drinking water quality.



Washing machine hose with single check valve on the right.

For more information on approved materials see: **Domestic Plumbing Tips, page 12.**

Also visit www.wras.co.uk for more information.

Unusual tasting hot drinks?

If you notice unusual 'medicinal' or 'plastic' tastes only in hot drinks this can often be due to the seal that separates the kettle's heating element from the water. This is particularly noticeable in new kettles.

How can I check if the taste and odour in the water is due to my kettle? To confirm whether the kettle is the problem, try making a hot drink with water boiled in a saucepan and compare the taste with one made from the kettle. If the taste has gone away then the cause is likely to be your kettle.





DISCOLOURED WATER

Cloudy (or milky) water

You may find that your tap water has a cloudy or white appearance. This occurs most often first thing in the morning, or when the tap has not been run for some time. The most common cause of this is tiny air bubbles.

You can confirm this by running a glass of water and standing it for a few moments and watching the cloudiness clear from the bottom of the glass upwards. Air in water is completely harmless and, in many cases, adjusting the stop tap on the incoming service pipe (usually under the kitchen sink) will cure the problem.

For information on your stop tap see: Turning off your water supply, page 6.

Cloudy water due to air can occasionally be caused by a burst water main or when the water company has been carrying out maintenance work. If your water contains air for the first time, or has been cloudy for more than a day or so and your neighbours are also affected, contact your local water company.

If the cloudy appearance clears from the top down, this may be caused by chalky deposits. You should contact your local water company.

Brown water

Occasionally you may find that your tap water looks slightly brown. This is because some water mains are made of iron and over time rusty deposits can settle out in the pipes. These can be disturbed if there is a sudden change in the direction or speed of flow in the nearby water main. This can happen for a number of reasons, for example, a burst on the water main, bringing a water main back into use after repairs, the water company having to move water from one area to another to cope with changes in demand or the fire service taking a lot of water to deal with an emergency. Brown water may also be caused by the condition of the service pipe connecting your house to the water main in the street.

For more information on your service pipe see: Responsibility for pipework, page 10.

Your water company will normally warn you in advance when it is carrying out planned work on the water mains and there is a risk of discoloured water and they will advise you of the actions to take. If you have not been warned and you notice brown water at your tap you should run the tap until the water is clear again. If the water does not clear after 30 minutes you should contact your water company.

Are your neighbours also getting discoloured water?

If not, the problem may be with the pipework in your home and you should contact a professionally qualified plumber.



Is water staining your laundry?

On some occasions iron in water can stain your laundry. If this happens firstly check that your mains water is clear, then re-wash your clothes after following a few simple tips:

- Keep the clothes damp and run the tap until the water runs clear.
- Use a synthetic detergent rather than a natural soap.
- Do not add bleach.
- Do not boil clothes.
- Rinse clothes by hand.

WARM WATER?

Warm water from your cold water tap?

This may happen if your cold water pipe runs very close to a hot water or central heating pipe in your home. Mixer taps can also cause this problem. As a result you may need to run the cold tap for some time wasting significant quantities of water until the temperature drops. Installing insulation around and between your pipes will overcome this problem.

WATER FILTERS

The quality of tap water in the United Kingdom is very high and is subject to strict testing and monitoring. It is perfectly safe and healthy to drink. However some people prefer to use filters to remove the slight traces of chlorine from the drinking water. These filters can either be plumbed in to the mains supply or be separate such as jug filters. Some filters also reduce temporary hardness in the water that can cause scale build up in kettles and affect the appearance of hot drinks. With all types of filter, you should follow the manufacturer's instructions for installation and use.

Jug filters are designed to be small and portable and filter the water into a glass or plastic container. The water they produce should be treated like any food and used as soon as possible. It is best stored in a refrigerator and should be discarded after 24 hours or the water may become contaminated by bacteria.

Plumbed in filters are permanently installed in the cold water supply and are connected to either the existing taps or a dedicated tap. The installation of a plumbed-in filter must comply with the Water Fittings Regulations.

Jug filters and plumbed in filter units normally have one or more filter cartridges that must be replaced from time to time, in accordance with the manufacturer's instructions. Care should be taken with filter cartridges to ensure that they do not become damaged or split. If this occurs, tiny beads or small black particles may appear in the filtered water. If this happens the filter cartridge should be replaced immediately.

WATER SOFTENERS

Some people living in hard water areas choose to artificially soften their water to prevent the build up of scale deposits in boilers, kettles and other water heating appliances caused by hardness in their water. Softening will also reduce the amount of detergent used for washing clothes.

Water hardness comes from naturally occurring calcium and magnesium salts, and the harder the water, the more of these salts it will contain. The map shows the hard and soft water areas in Northern Ireland. The natural salts which cause hard water also give the water a crisp, pleasant and fresh taste, which is lost when water is softened. In addition, calcium and magnesium are essential minerals in our diet. So,

if you have a water softener installed, we recommended that you have a separate unsoftened mains fed tap for drinking water.

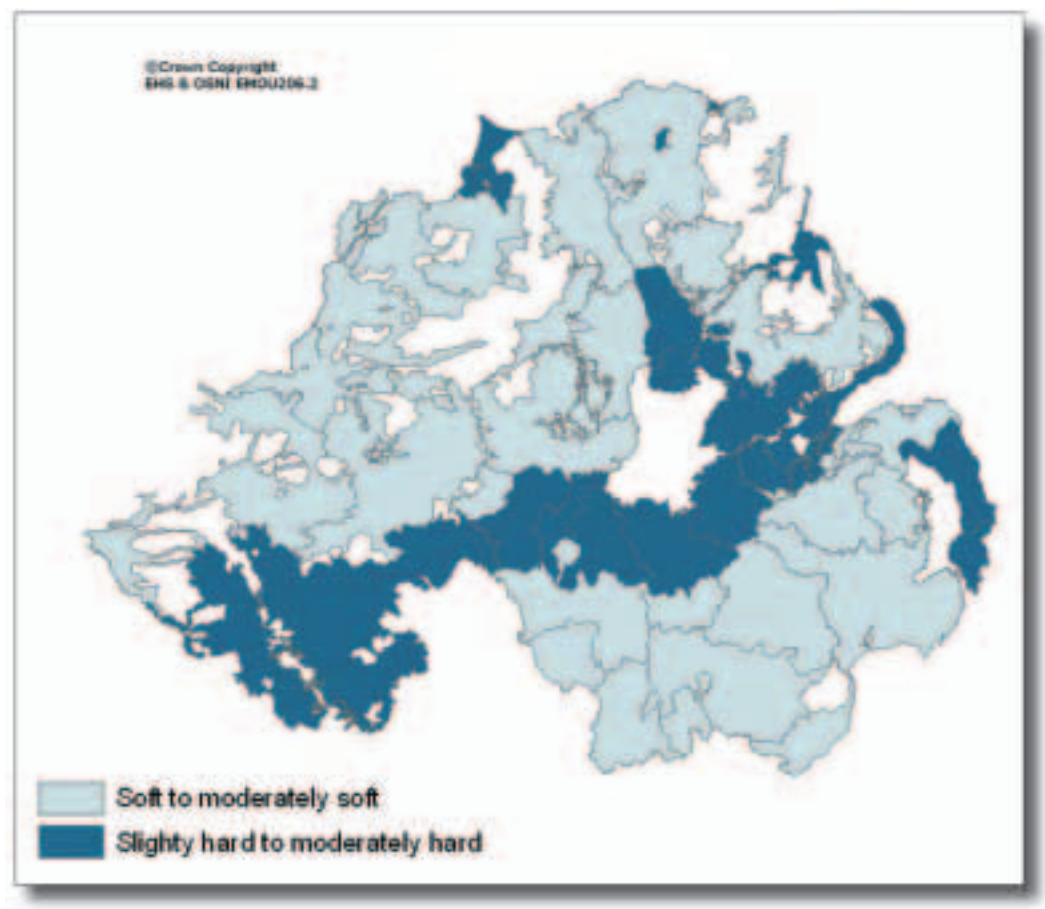
The map overleaf can only provide a general picture. Hardness will often vary from postcode to postcode, so please contact your local water company for information on the specific level of hardness in your water.

Most softeners replace the calcium and magnesium that causes hardness with sodium. It is particularly important therefore that all water mixed with powdered milk for babies' feed is drawn from an unsoftened mains supplied tap. This is because powdered milk already contains sufficient sodium, and very young babies have a limited tolerance to sodium. Anyone on a sodium-restricted diet should follow their doctor's instructions.

The water supply to any softener must be via a single check valve to prevent back flow into the mains supply. Further information can be obtained from the Information and Guidance Note "Installation of Ion Exchange Water Softeners" on the Water Regulations Advisory Scheme (WRAS) website, see: www.wras.co.uk

How can I find out how hard my water is?

Contact NI Water if you want to know the hardness of your tap water, for example, if you are buying a new dishwasher. Many water companies now make this information available on their websites via a postcode search or publish detailed maps of the water hardness in their supply areas.





TURNING OFF YOUR WATER SUPPLY

It is a good idea to know where your internal stop tap is and that it works effectively. Try closing and opening it. The stop tap can usually be found on the pipework under the kitchen sink or in a downstairs bathroom or cloakroom, or the cellar if your property has one.

If you get a leak or burst pipe inside the property you will need to turn the internal stop tap off to prevent any flooding or damage.

In the roof space

WATER STORAGE

Many properties have cold water storage tanks in the roof space or loft. In most cases the storage tank only provides cold water to upstairs bathrooms, but in some properties all of the cold water taps are fed from this tank. The condition of this tank can have a significant impact on the water quality in your home.

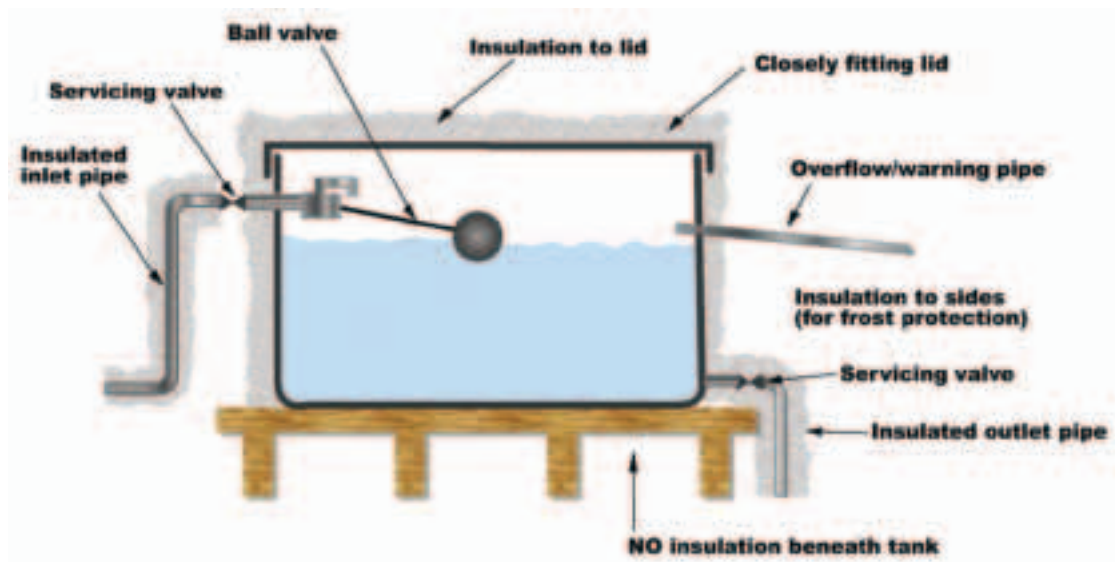
Ideally you should only use a mains fed tap for drinking water. However if your drinking water, or water for brushing your teeth, comes from a storage tank, you should check the following: -

Is your tank in good condition?

Traditionally tanks were made of galvanised iron and these will rust over time resulting in rust particles and iron dissolving into the water. This can lead to 'bits' in your water or the water having a brown or yellowish tinge. It can also give the water a metallic taste.

Nowadays, tanks are constructed of plastic (polyethylene) and are unlikely to cause problems provided that they are designed for drinking water purposes and have a closely fitting cover. Look for one with the WRAS Approved Product logo which ensures the materials used have been tested in accordance with the Regulations to ensure they do not transfer a taste or odour to the water or promote the growth of bacteria. For more information on approved materials see: Domestic Plumbing Tips, page 12.

Diagram showing typical cold water storage tank



Is the tank covered?

Ensure your tank has a close-fitting lid of a suitable material that will not deteriorate or allow mould or bacteria to grow on it and drip into the water. The lid must prevent debris falling in and polluting the water supply. It is not uncommon for birds, rodents or insects to find their way into tanks that are uncovered or only partially covered. This can cause anything from particles in the water, to unusual tastes and odours and can make you ill. Any vents or openings should be screened with fine mesh for the same reason.



Your tank should also be insulated along with the pipes in the roof space to avoid freezing and bursting in the winter and warming of the stored water during summer, when the roof space can get very hot. Do not insulate underneath the storage tank as the heat rising from the room below will help prevent the water freezing.

The tank should have an overflow pipe to divert any excess water safely out of the property, otherwise it would overflow into the roof space and flood your home. If you notice water coming out of the overflow (or 'warning' pipe) it means your tank is filling too much. This probably means the ball valve in the tank needs repairing or replacing and you should contact a professionally qualified plumber straight away.

In the bathroom

STAINING

Pink / red stains

The reddish-pink colour sometimes seen on shower curtains, bath sealant, or around taps is not caused by the water itself, but by the growth of common bacteria or yeasts. Both can thrive in moist, warm environments like those found in bathrooms. Their presence does not indicate a problem with the quality of the mains water supply. The solution to the problem is to wipe down wet surfaces and increase air circulation by opening a window or fitting an extractor fan to ensure that affected areas are quickly dried out after use. Household cleaner, disinfectant or bleach solution can be used to kill off the bacteria and yeast spores.

Mould

Black, grey or red staining around taps in the bathroom or showers, on the grout between bathroom tiles and in washing machine powder drawers is quite common. The staining is caused by the presence of airborne mould that can grow and proliferate in damp areas. The problem is made worse if the area is poorly ventilated, or if aerosol deodorants or other sprays (which provide a food source or the mould) are used.

Simply improving the ventilation in the room, combined with regular use of household cleaning agent, will help minimise the problem.

Outside your home

OUTSIDE TAPS AND HOSEPIPES

A hosepipe connected to an outside tap can present a major risk to water quality in the home. If there is a sudden reduction in mains pressure, contaminated water could be sucked back through the hosepipe into your home. This is easily prevented by fitting a double check valve (non-return valve) at the outside tap, or on the pipe to the outside tap, to protect your water supply.

- Outside taps should be protected with a double check valve to prevent backflow. New hose taps are available with a double check valve built into the tap. Separate double check valves are also available
- Never place the hosepipe outlet into drains, garden ponds, buckets or watering-cans containing chemicals like fertilisers or pesticides.
- Hosepipes should be fitted with a self-closing flow control (such as a trigger spray gun) and be hand-held when in use.

CHEMICAL SPILLS ON YOUR DRIVEWAY OR GARDEN

In most modern houses, the pipe connecting the property to the water main in the street will be made of plastic (typically black alkathene or blue MDPE). Plastic is used because of its flexibility and resistance to leaks.

Products such as heating oil, petrol, diesel and creosote contain chemicals that can rapidly soak through the driveway or soil and penetrate plastic water pipes, causing unpleasant tastes and odours. You should therefore take care not to spill any chemicals or fuel on the ground above the pipe that supplies your property. Once soil and plastic pipes become contaminated in this way, the only solution is to completely replace the pipe with either a metal or barrier pipe system. This is a job for a professionally qualified plumber.

If you become aware of a chemical spill, for example, if a vehicle leaks a lot of oil or fuel on your driveway or you have a spillage of heating oil, remove as much as possible straight away. If the spillage is extensive you should contact your local authority which may have services to help you.

If you become aware of an unusual taste or odour to your water supply following a chemical or fuel spill, contact your local water company immediately and they will provide advice on the best way forward.



Useful information

LEAD PIPES

Lead comes from a variety of sources and may be present in air, food, soil or water. However, it can build up in the body and it can be harmful, especially to young children.

There is no lead in water when it leaves the water treatment works. However lead can be picked up by the water if the service pipe (the pipe connecting your property to the main in the street), is made of lead. Lead can also be picked up from any internal lead pipework and lead-based soldered pipe joints inside your home. It is important therefore to use a professionally qualified plumber to avoid any new pipework being connected with the wrong type of solder. (Lead solder can however still be used for closed circuit central heating systems). Water companies regularly take random tap water samples to ensure the water supplied meets the high quality required by law. If the lead standard is exceeded in a statutory water sample taken from your property then the water company will replace any lead pipework in their part of the service pipe, free of charge, and advise you that it has done so. It will also recommend that the homeowner replaces their external and internal lead pipework.

The part of the service pipe within the boundary of the property is the property owner's responsibility, so it is down to the homeowner to replace this along with any lead pipework inside the property.

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

If your home was built before 1970 it may have lead pipes. If it was built after 1970 it is unlikely to have lead pipes.

If your home has been modernised since 1970 and all of its pipework has been replaced from the water company's stop tap outside your home to the kitchen tap, there should be no lead pipe on your property. If you are unsure, you can make a simple check:

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 along as much of its length as possible to see if it is made of lead. Unpainted lead pipes are dull grey in colour. They are also soft. If you scrape the surface gently with a knife, you will see the shiny, silver-coloured metal beneath.

If in doubt, ask a professionally qualified plumber or your local water company or local authority for advice. You can also ask your water company to test the water at your kitchen tap, as there may not be a problem, even if there are lead pipes in your property.



What can I do to reduce lead levels?

If your home has lead pipes there are some simple short-term measures you can take:

- Do not drink water that has been standing in the pipes for long periods, for example, over night, or if no one has run the taps for several hours.
- In these circumstances, draw off a washing-up bowlful of water from the kitchen tap to clear the water which has been standing in the pipes. This need not be wasted but can be used on the garden or for something other than drinking or cooking.

You can then use the water from the kitchen tap as usual.

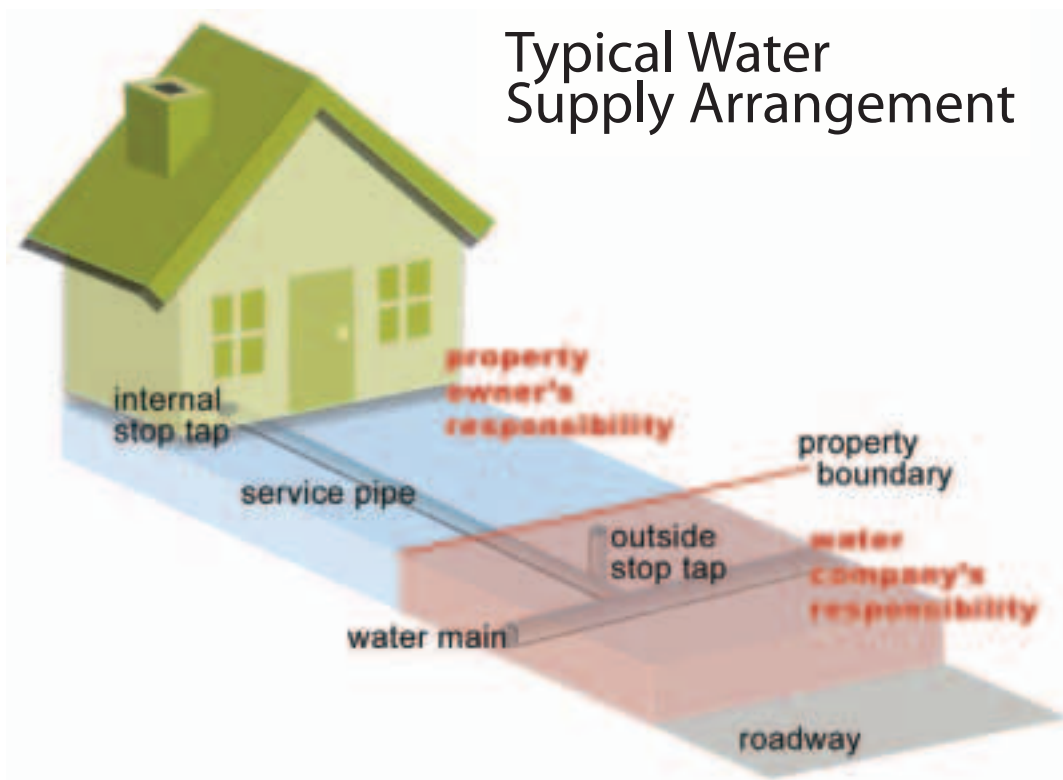
In the longer term, the only way to completely reduce lead levels would be to replace all the lead pipework in your home and the service pipe, if it is made of lead.

RESPONSIBILITY FOR PIPEWORK

Your home is connected to the water main in the road by a small diameter service pipe. There will be a stop tap on this pipe, in a chamber near the boundary of your property with the road – usually in the footpath. There may also be a water meter in this chamber.

The part of the service pipe which links the water main in the street to the boundary of your property belongs to the water company and is their responsibility to maintain.

The part of the service pipe leading from the boundary of your property to the point where it enters your home is your responsibility, as the homeowner, along with all the internal plumbing. Any leak in your front garden or under your drive is likely therefore to be your responsibility to repair. Many water companies will however provide some help with repairs on the customer's part of the service pipe.



RETURNING TO A VACANT PROPERTY

If your home is empty for a month or more and water has not been used, then the quality will deteriorate. This can lead to taste and odour problems and in extreme cases illness. It is advisable therefore to completely flush your plumbing system through (both hot and cold water pipes) if it has not been used for more than a month.

PREPARING FOR THE WINTER

These tips will help you to get through the winter:

- Fix any dripping taps or overflows - as a gentle trickle of water can freeze and block the pipe
- Check that your internal stop tap is working by opening and closing it (it is usually under the kitchen sink or in a downstairs bathroom or cloakroom)
- Ensure that pipes in cold and draughty areas like roof spaces, outbuildings and garages are well insulated
- Use waterproof insulation on all pipes exposed to the elements and ensure all lagging is kept dry. Wet lagging is useless
- Remember to insulate any outside taps or turn them off at the internal stop tap and leave the outside tap open to drain it.
- Ensure your central heating system is serviced regularly
- Keep your plumber's contact details handy in case of an emergency.
- Ensure any storage tank in the roof space is adequately insulated around the sides and on the cover.
- Don't put insulation underneath the storage tank. Warm air from below will help prevent the water from freezing.

BLUE WATER

Hot water tanks and most household pipes are made from copper. In very new buildings, or buildings with new plumbing, small quantities of copper can dissolve into the water until a natural protective layer builds up on the inside of the pipes. Usually this does not cause a problem other than the risk of slight staining, especially with white baths and sinks. However, sometimes the water can develop a blue tint if it has stood in contact with the pipes for a long time. This problem should only last for a few days whilst the protective layer forms. If it continues then you need to contact the house builder or a professionally qualified plumber.

DOMESTIC PLUMBING TIPS

Whenever you change pipes or water fittings in the home, you should only use materials that have been approved for use in contact with drinking water. New work on plumbing systems can affect the quality of your drinking water.

The 'WRAS Approved' logo shows products that water companies have checked and endorsed as complying with regulations to ensure they do not affect drinking water quality.



APPROVED PLUMBER SCHEMES

Many simple plumbing jobs can be safely tackled by someone with competent DIY skills using WRAS approved materials. However more complex tasks or tasks you are not confident about should be tackled by a professionally qualified plumber. Look for members of an Approved Plumber Scheme or members of a recognised plumbing professional or trade association such as the Institute of Plumbing and Heating Engineering (IPHE), the Association of Plumbing and Heating Contractors (APHC) the Scottish and Northern Ireland Plumbing Employers Federation (SNIPEF) or the Heating and Ventilating Contractors' Association (HVCA) or firms belonging to the Government-sponsored TrustMark scheme (www.trustmark.org.uk)

Members of Approved Plumber Schemes have been checked to see that they have good experience of plumbing and have passed a test of their knowledge of the Water Fittings Regulations (Water Byelaws in Scotland). They give their customers certificates confirming that the plumbing work they have carried out complies with the Water Fittings Regulations. The compliance of their work is checked from time to time by the scheme organisers, who will also investigate any claims from customers of non-compliance with the regulations. Approved contractors are exempt from some of the requirements to give notice of plumbing work in advance of starting it, which gives them more flexibility in the timing of their work.

Current 'Water Regulations' 1991 will be replaced in 2009 by the Water Supply (Water Fittings) Regulations (Northern Ireland) 2009, these will introduce the concept of licenced plumbers for the first time into Northern Ireland.

All plumbing fittings and materials that you use must meet the requirements of the Water Fittings Regulations and therefore must have relevant UK, EU or WRAS approval. A list of approved fittings can be found in the 'Water Fittings and Materials Directory' published by the Water Regulations Advisory Service (WRAS). This directory can be viewed free of charge by visiting their web site at www.wras.co.uk

Please note that not all plumbing fittings and materials on sale in the UK meet these requirements. It is important that you check their suitability prior to purchase. Remember, it is illegal to use fittings which do not have the relevant approvals.





USEFUL LINKS TO FURTHER INFORMATION

Most water companies have detailed information on drinking water quality on their websites.

These are listed below:

Anglian Water Services Ltd (includes Hartlepool Water)	www.anglianwater.co.uk
Bournemouth & West Hampshire Water plc	www.bwhwater.co.uk
Bristol Water plc	www.bristolwater.co.uk
Cambridge Water plc	www.cambridge-water.co.uk
Dee Valley Water plc	www.deevalleygroup.com
Dwr Cymru Welsh Water	www.dwrcymru.co.uk
Folkestone & Dover Water Services Ltd	www.fdws.co.uk
Mid Kent Water Ltd (South East Water)	www.southeastwater.co.uk
Northern Ireland Water	www.niwater.com
Northumbrian Water Group plc www.nwl.co.uk (includes Essex and Suffolk Water)	www.eswater.co.uk
Portsmouth Water Ltd	www.portsmouthwater.co.uk
Scottish Water	www.scottishwater.co.uk
Severn Trent Water Ltd	www.stwater.co.uk
South East Water Ltd	www.southeastwater.co.uk
South Staffs Water plc	www.south-staffs-water.co.uk
South West Water Ltd	www.southwestwater.co.uk
Southern Water	www.southernwater.co.uk
Sutton and East Surrey Water plc	www.waterplc.com
Tending Hundred Water Services Ltd	www.thws.co.uk
Thames Water	www.thameswater.co.uk
Three Valleys Water plc	www.3valleys.co.uk
United Utilities plc	www.unitedutilities.com
Wessex Water Services Ltd	www.wessexwater.co.uk
Yorkshire Water Services Ltd	www.yorkshirewater.com

Further advice on water quality can also be obtained from the independent drinking water quality regulators for England & Wales, for Scotland and for Northern Ireland.

These are:

Drinking Water Inspectorate (England & Wales)	www.dwi.gov.uk
Drinking Water Quality Regulator for Scotland	www.dwqr.org.uk
Drinking Water Inspectorate (Northern Ireland)	www.ni-environment.gov.uk/water/drinkwater.htm

Other advice relating to Water Fittings Regulations and plumbers can be found from

Water Regulations Advisory Scheme (WRAS)	www.wras.co.uk
Water Industry Approved Plumber Scheme (WIAPS)	www.wras.co.uk/WIAPS

Advice on water filters and softeners can be found at

British Water	www.britishwater.co.uk
UK Water Treatment Association (UKWTA)	www.ukwta.org
Domestic Water Treatment Association (DWTA)	www.dwta.org.uk

Professional plumbing and trade association

Scottish and Northern Ireland Plumbing Employers Federation (SNIPEF)	www.snipef.org
Plumbing Industry Licensing Scheme (PiLS)	www.needaplumber.org
Institute of Plumbing and Heating Engineering	www.iphe.org.uk
Association of Plumbing and Heating Contractors	www.competentpersonsscheme.co.uk
Heating and Ventilating Contractors' Association	www.hvca.org.uk

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