

Information about the appearance of your tap water and some helpful tips on how to make sure water arrives at your tap clear and bright, explained to you by **anglianwater**



## How should your tap water look?

Water should arrive at your tap clear and bright, but occasionally you may experience a change in this appearance, which may cause you concern.

The most common causes, and how to resolve them, are outlined in this leaflet.

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Water left to stand (even in the fridge) should not be kept for more than 24 hours.

## White water

White water is caused by either trapped air or suspended chalk particles:

### Air

Air dissolved in water can have a cloudy or milky white appearance and is the most common cause of white water. Because air is a gas, it appears as a haze of tiny bubbles, which makes the water white or grey and misty in appearance.

Air in water may have a chlorinous or 'musty' taste and odour, but keeping a jug of water in the fridge will allow the air to clear, as well as improving taste and odour.

Water left to stand (even in the fridge) should not be kept for more than 24 hours.

### Suspended chalk

Chalk has a white powdery appearance and is made up of natural minerals found in water, which form what is known as 'hardness'. This hardness may appear as a fine white sediment, or 'scale', which is more noticeable when water is boiled, leaving a chalky white residue in the kettle.

An oily film on the surface of hot drinks is formed by natural tannins, present in tea or coffee, mixing with the hardness scale.

Please see our leaflet on hard water for more information.

### Air or chalk – how to check:

Fill a glass with water from the cold kitchen tap and leave it to stand. Air in water will take several minutes to clear, and will clear from the bottom of the glass upwards. Water containing chalk can take an hour or more to clear, with the glass clearing from the top downwards. A fine chalky sediment will then be left in the bottom of the glass.

White or grey particles may be visible as a build up of hardness scale on kettle elements.



## Is white water safe to drink?

Despite the unappealing appearance, neither air nor chalk poses a risk to health.

## What are the causes of air in water?

Air in water can occur as a result of disturbances in the water distribution system, for example, if a mains water pipe has burst. If this is the cause, the water may remain cloudy even if taps are run for long periods of time. Air in water mains typically lasts for a few hours.

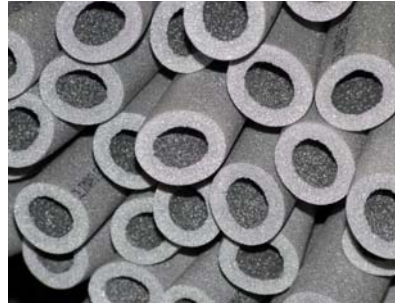
The majority of long-term air in water problems are linked to the internal plumbing of the property. This can be confirmed if:

- The water clears after running the tap for a few minutes, but becomes cloudy again when the water has not been used for a period of time, for example overnight.
- The cold water supply runs slightly warm for a few seconds before becoming cold.

These two checks demonstrate that the cold water pipes are being heated at some point within the property.

The most common cause is the hot water supply pipework running either underneath, or in close proximity to the cold water supply pipe. The problem can be solved by insulating (lagging) the hot pipe to prevent the cold water from being heated. Foam pipe lagging is inexpensive and can be bought at most DIY or plumbing stores.

**Lagging of hot water pipes improves home energy efficiency and could help you save money.**



Pipe lagging

**Ask your neighbours if they have white water. If they do not, this may indicate that it's derived from the internal plumbing in your property.**

If you believe your hot water system to be at fault, please contact a plumber.

Other possible causes of air in water are:

- Depth of the service pipe entering the property. If your service pipe has been laid at a shallow depth, your pipework will have greater exposure to the outside temperature.
- Major external structural work. For example, changes in your garden, such as lowering a patio, may also have an effect.
- Mixer taps. Air in water can be caused by mixer taps forcing air into the water stream.
- Partially open internal stop taps. Make sure your stop tap is fully open.

## Why does heated cold water go cloudy?

Cold water is able to hold more dissolved air than warm water. As it heats up, the dissolved air appears as tiny white bubbles.

The problem is far more common during the winter months for two reasons:

- The ground is much colder and therefore so is the water supply, so the natural level of air dissolved in the water is much higher.
- Heating systems are run for longer and at higher temperatures, therefore the temperature of the cold water pipes may be increased.

## Solving internal plumbing problems

Contact us on 08457 145 145 or visit our website [www.anglianwater.co.uk](http://www.anglianwater.co.uk), for a list of Approved Plumbers, if you think you will need to move or modify your pipework.



## Discoloured water

### What causes discoloured water?

#### Orange or brown water

Water can become discoloured for a number of reasons, including the disturbance of sediments within water mains. Such disturbances can be caused by changes in the direction or speed of flow following:

- A burst main.
- Routine maintenance work.
- The use of fire hydrants.
- Vibrations from structural highway work.

The sediments often contain elevated concentrations of iron from cast iron water mains, giving an orange or brown colour to the water, which is harmless to health.

Discoloured water can also arise due to the condition of private service pipes or internal plumbing, particularly in older properties. Your internal storage tank can also cause discolouration and it is always useful to check whether the problem arises from the mains-fed cold tap (normally the kitchen tap) or via the storage system (from the upstairs bathroom tap, if fed from a tank).

Storage tanks should always be securely covered and comply with the Water Supply (Water Fittings) Regulations 1999 (please contact the Water Regulations Advisory Scheme (WRAS) for more information on 01495 248454 or view [www.wras.co.uk](http://www.wras.co.uk)). It may be that recent plumbing work or water flow through the pipework has mixed up sediments in your property's internal plumbing. If you believe your hot water system to be at fault, please contact a plumber (see our website [www.anglianwater.co.uk](http://www.anglianwater.co.uk) for information on our Approved Plumbers).



Discoloured water

If your neighbours do not have discoloured water, the problem is most likely to be due to the pipework within your property.

### Black water

Black discolouration usually occurs as a result of high levels of suspended manganese, which is not harmful to health. Small black fragments may also be present in the water. Manganese is found naturally in some raw waters and is often combined with iron or chalk.

Manganese deposits may become disturbed in the mains network, for example, following a change in flow, as with orange or brown discolouration, caused by iron deposits.

Black particles can also be caused by hardness scale building up in domestic pipework which has been stained black by traces of manganese or copper oxide. If work is carried out on the internal plumbing system, this may cause these deposits to become dislodged and appear in the water.

Every care is taken to prevent discolouration to your water. Our distribution systems are assessed and flushed routinely as part of our Planned Preventative Maintenance programme, in order to remove sediments that can cause discoloured water.

### Is discoloured water harmful?

Discolouration caused by iron and manganese may not look very appealing, but is not harmful to health. Both are, in fact, essential elements in human nutrition, and occur naturally in food. However, try not to wash clothing if you have discoloured water, as it may stain fabrics.

### What should I do if my water is discoloured?

Under normal conditions, water will return to its usual high quality after a short time. Allow the water system to settle for approximately 1-2 hours. Then run the tap for 2-3 minutes to check the water is clearing. If this doesn't work, and your neighbours are also receiving discoloured water, this could indicate that the problem is mains related, and you should contact us on 08457 145 145. We will be able to inform you if there is a specific reason for the discoloured water in your area.

If your neighbours do not have discoloured water, the problem is most likely to be due to the pipework within your property. If this is the case then you may need to contact a local plumber. Please call us or visit our website [www.anglianwater.co.uk](http://www.anglianwater.co.uk) for more information and advice on our Approved Plumbers.

## Blue water and stains

Blue-green or bluish, cloudy water coming from one or more cold taps in your house may be due to copper pipework in your property. This can be more noticeable if the tap hasn't been used for several days. There may be a build-up of crystals or blue stains on basins or the back of the toilet bowl, or the water may have a metallic or bitter taste. Blue water usually disappears if the tap is left running for a few minutes. If the water does not return to its normal appearance after running and there has not been any sign of crystal build up or blue staining, please call us immediately on 08457 145 145.

## What causes blue water?

Blue water may occur when new copper pipes have been fitted.

Blue staining or blue particles may occur as a result of limescale discolouration.

## Copper and your health

Trace amounts of copper in the diet is essential for good health and low levels are not harmful. However, if you are concerned about copper, please consult your GP.

## How to prevent blue water

In new internal pipework, or new properties which have copper piping, a build up of hardness scale on the surface of the pipes will gradually reduce copper leaching.

**Please note:** Water softeners may cause corrosion of this protective scale coating. Blue water is less likely to occur if minimum flux is used on soldered fittings and all new pipework is flushed very thoroughly.

## Solving the problem

Please call us for advice on our Approved Plumbers list on 08457 145 145 or visit our website [www.anglianwater.co.uk](http://www.anglianwater.co.uk).



Green coloured limescale inside copper pipe

# Bits, stains and slimes

## White or grey particles

White or grey particles may be visible as a build up of hardness scale on kettle elements or in hot drinks, especially if you have used a new or recently de-scaled kettle.

Air in water may force hardness scale to become dislodged from internal pipework and appear as white or grey particles within cloudy water.

**Please note:** If you have a domestic water softener fitted, it can release white pieces of scale, or white, yellow or green beads, over a period of time. Mains-fed kitchen taps should be used for drinking and cooking purposes. Any domestic softeners should be fitted downstream (after) the drinking water tap, and maintained according to the manufacturers' instructions.

## Orange, brown or black particles

Flaky discoloured particles that break apart easily, for example in basins and toilet bowls, can occur when the naturally occurring hardness scale becomes stained by iron, manganese or copper oxide.

Discoloured particles that are solid and may be described as 'grit', may be particles of iron corrosion products (rust). These may result from sediment in the main or the corrosion of internal pipework.

## Why are there particles in water mains?

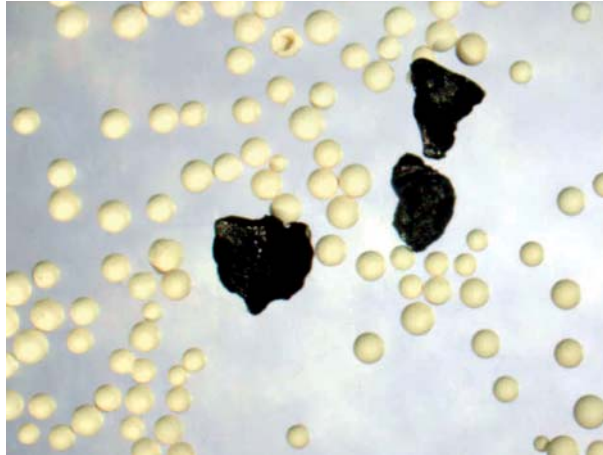
Many of the water mains in the Anglian Water region are cast iron. As cast iron water mains age, they can become corroded. Iron corrosion particles (rust) can become loose and can be picked up, and carried along by the water when a disturbance occurs.

Our distribution systems are routinely flushed to minimise the presence of these particles.

## Other Black bits

Other common causes of black bits in drinking water are:

- **Fungal growth**  
Black or grey particles that are wispy in appearance may originate from fungal growth in and around tap fittings. See black or grey slime (on page 13).
- **Parts of disintegrating tap washers**  
These particles are usually large and rubbery. Examination of tap washers and replacing them as necessary, should resolve the problem.
- **Carbon particles from jug filters**  
Some jug filters contain activated carbon filters, which may leak small black particles into the water. If the black particles only appear in filtered water and not in water straight from the tap, refer to the jug manufacturers' instructions.



Carbon particles viewed from under a microscope

### Green bits in jug filters

Customers occasionally contact us because they have green material in the water in their jug filter. This is usually caused by bacterial or algal growth in the filter. Jug filters remove chlorine from the water, and this can allow the growth of micro-organisms, such as bacteria and algae. The problems can be exacerbated if the jug filter is left unused for long periods of time and particularly if the filter is allowed to stand in direct sunlight in a warm room.

Jug filters and domestic water softeners often leak gel-like crystals or balls which may appear as yellow, green, orange, black or white particles.

### Using jug filters

It is recommended that the manufacturers' instructions are strictly adhered to and water is not allowed to stand in the jug for any length of time, especially in direct sunlight.

Refrigerate filtered water that is not going to be used straight away.

Regularly wash the jug and its associated parts (but not the cartridge).



Substances such as soaps, shampoos, conditioners and hairsprays provide nutrients for airborne fungal spores to grow. They do not necessarily indicate poor cleaning or hygiene practices.



### Black or grey slime

Black or grey jelly-like substances can sometimes occur:

- In and around taps and tap fittings (usually kitchen or bathroom).
- In washing machines (particularly around the powder drawer).
- In toilet cisterns and bowls.
- On shower heads.
- Around tiles in bathrooms and shower rooms.
- On shower curtains or towels (often as spots or staining).
- In waste traps connected to sinks.

These are caused by airborne fungal spores which do not originate from the water supply, but are naturally present in the environment. To develop they require warm and damp conditions, which is why they are most commonly found in the kitchen or bathroom. Substances such as soaps, shampoos, conditioners and hairsprays provide nutrients for their growth. They do not necessarily indicate poor cleaning or hygiene practices.

### Pink and grey stains

Pink and grey stains can sometimes occur in warm, moist conditions. They are produced by airborne bacteria, which can colonise and grow on surfaces such as tiles, shower heads, toilet bowls and sink drains. These bacteria, which produce a pink pigment,

occur naturally in the environment. They do not come from the mains water supply and are a common domestic problem. Frequent cleaning of any surface that is prone to pink or dark grey staining with chlorine-based disinfectant will remove and control the problem. In addition, keeping bathtubs and sinks wiped down and dry, and regularly washing shower curtains, will minimise the problem.

### Eliminating slimes and moulds

Slimes and moulds can be difficult to eliminate entirely. Cleaning the affected area with diluted bleach or sodium bicarbonate, used in accordance with the manufacturers' instructions, will aid removal.

Improving ventilation is the best means of prevention, as well as removing limescale that provides a rough surface for slimes and moulds to grow on. Antimould products are also widely available.

### Are they harmful?

Slimes or moulds of this kind do not cause disease and are effectively harmless. However, in very susceptible people they may cause an allergic reaction. Therefore it is recommended that they are removed as they appear.

## Where can I get more advice?

For further advice or information please view the Drinking Water Quality section of our website [www.anglianwater.co.uk](http://www.anglianwater.co.uk) or contact us on 08457 145 145.

You will also be able to find further advice on how to keep your water healthy on this website.





Want to know more about Anglian Water?  
Visit [www.anglianwater.co.uk](http://www.anglianwater.co.uk)

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