

WATER UK BRIEFING NOTE



ARSENIC & DRINKING WATER

SUMMARY

- **UK water suppliers place the highest priority on assuring the quality of water provided to their customers.**
- **Arsenic occurs naturally at very low levels in many groundwater sources**
- **In certain areas background levels are higher than normal because of the type of rock through which the raw water passes**
- **As a precaution, and based on WHO advice, the EU standard for Arsenic was tightened in 2004 to 10 µg/l. This is 5 times lower than the previous standard**
- **Where necessary, water suppliers treat water or take other measures to ensure that drinking water supplied to customers meets the strict EU standard**

TECHNICAL BACKGROUND

Where does arsenic come from?

Low concentrations of arsenic are found in many raw waters throughout the UK; although in some areas higher concentrations are encountered in deep wells or as a consequence of peculiarities in local geology. It occurs naturally in water as a result of leaching from certain types of sedimentary rock.

What standards apply to arsenic in drinking water?

For many years, the European standard for arsenic in drinking water was 50 µg/l. However, WHO proposed a new guideline value of 10 µg/l in 1993 to take into account new information on the health effects of arsenic in drinking water, but this was designated as provisional because of the scientific uncertainties. Based on this guideline value and in order to take the more precautionary approach advocated by WHO, a new standard of 10 µg/l for total arsenic was introduced which came into effect in 2004.

Arsenic is known to cause a range of health effects, including certain types of cancer, as a consequence of long term exposure to high concentrations in drinking water in some areas of the world, particularly parts of Asia and South America. There are many factors (including diet) that affect the susceptibility of individuals to the health effects of arsenic and there is no good evidence of any such effects in populations in the UK or other developed countries.

How is the quality of drinking water assured?

UK water suppliers monitor water supplies for arsenic and where arsenic is found above the new standard they have:-

- Switched to alternative sources
- Or mixed with water from low arsenic sources
- Or installed specialist treatment to remove the arsenic.

Arsenic in water is present in the inorganic form but it can be removed from drinking water by a number of treatment processes. UK water suppliers have been active in developing and introducing new more efficient forms of treatment, where this is necessary.