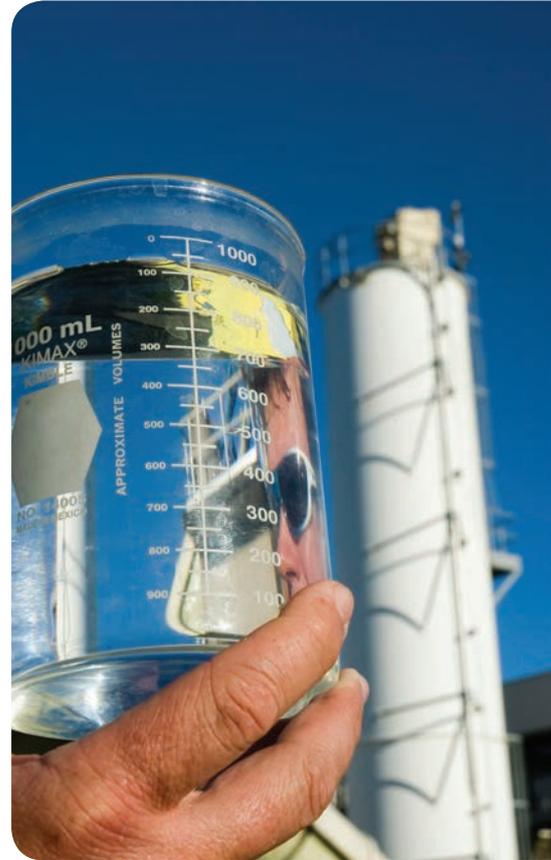


Selenium in drinking water supply at Eton



Where does selenium come from?

Selenium is a metal that is distributed widely in the environment and is found in foods, such as sheep liver, seafood, pork, bacon and eggs. Its presence in soils and rocks means that it can also be found in groundwater.

Like calcium and iron, selenium is considered a “trace element” or “micronutrient”. In small amounts it is considered an essential part of the human diet.

Are there health concerns associated with selenium?

Evidence from human studies suggests that people who have been exposed to high levels of selenium for an extended period of time may experience nail deformities, gastrointestinal disturbances, dermatitis, dizziness, weariness and a garlic odour to the breath.

Selenium doesn't pose any health risks specific to children, infants, or pregnant women.

Are there guidelines for safe levels of selenium in drinking water?

The Australian Drinking Water Guidelines (ADWG), developed by the National Health and Medical Research Council (NHMRC), provide health guideline values for chemical, physical and radiological water quality characteristics and assure the safety of drinking water.

A health guideline value is the concentration or measure of a water quality characteristic that, based on present knowledge, does not result in any significant risk to the health of consumers over a lifetime of consumption.

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The current ADWG health guideline value for selenium in drinking water is 10 micrograms per litre (Note: one microgram is one millionth of a gram). Queensland Health considers that the current ADWG health guideline value is due for updating.

If this were to happen it is expected that the NHMRC will take into account more recent information from the NHMRC's Nutrient Reference Values for Australia and New Zealand (2005).

This document has set an "upper level of intake" of selenium for a range of age groups from infants through to adulthood. These values range from 45 micrograms per day for young infants through to 400 micrograms per day for adults.

People who consume more than these amounts, for an extended period of time, may experience adverse health effects.

What are the current levels of selenium in the Eton drinking water supply?

Monitoring has shown that the level of selenium in the drinking water supplied to the township



of Eton has varied over time. However, under the current water supply arrangements for Eton, the level of selenium slightly exceeds the current ADWG guideline level of 10 micrograms per litre (0.010mg/L). Reported values varied from 8.96 (0.00896mg/L) to 12.933 (0.012933mg/L).

Is there a health risk from selenium levels in the drinking water supply at Eton?

Dietary surveys have shown that Australians typically consume much less selenium than the relevant "upper limit of intake" determined by the NHMRC.

For example, it is estimated that adult males consume around 90 micrograms of selenium per day.

This is well below the "upper level of intake", determined by the NHMRC, of 400 micrograms per

day. It is therefore very unlikely that drinking water with slightly elevated levels of selenium in it will result in the residents of Eton consuming too much selenium.

In some cases, it may assist people meet their minimum dietary requirements for this micronutrient.

If you have any concerns about your health, contact 13 HEALTH (13 43 25 84), your local doctor or local hospital and advise them of this notice.



Queensland Government