



Health Information about Arsenic in Drinking Water

What is new about arsenic in drinking water?

In 2002, the U.S. Environmental Protection Agency (EPA) decreased the Maximum Contaminant Level (MCL) in drinking water from 50 parts per billion (ppb)¹ to a more protective value of 10 ppb based on new information about the effects of arsenic in drinking water. Both EPA and MDE are requiring all public water supplies to be at or below the MCL by 2006. The MCL is the highest level of a contaminant that EPA allows in public drinking water supplies. It is based on health concerns, as well as costs and the feasibility of treatment.

How large are the health risks at the recommended level?

There are still some questions about the most appropriate MCL and level of protection provided at 10 ppb arsenic. Experts agree, however, that the MCL of 50 ppb that was used since the 1940s prevented many human health effects. A level of 10 ppb is expected to be at least 5 times more protective of health. According to EPA, drinking water with 10 ppb arsenic may cause 1-6 additional cancer deaths over the lifetime exposure of a group of 10,000 people. The NRC estimates that risks are about 10 times higher. The overall cancer death rate from all causes in the U.S. is about 20 percent or 2,000 cases in a population of 10,000 people.

How do I know if I am being exposed to unacceptable levels of arsenic?

There are tests that can measure arsenic in your blood, urine, hair and nails. The urine test is the most reliable test for arsenic exposures occurring within the last few days. The results can be misleading if seafood or ocean-derived vitamins or supplements were eaten in the past 48 hours. Hair and nails may be a clue to arsenic exposure however these tests can be misleading due to surface contamination with arsenic.

I am on a public water supply. How can I find out the levels of arsenic in my drinking water?

Drinking water utilities are required to inform customers of the current arsenic levels in their drinking water. Utilities usually do this by including a Consumer Confidence Report in the billing statement. You can also get a copy of the Consumer Confidence Report by contacting your water utility.

I am on a private well. How can I find out the levels of arsenic in my drinking water?

First, check with your local County Health Department (phone numbers are below). They can provide information on the levels of arsenic in the drinking water supply in your area. If you live in an area with elevated arsenic in the groundwater, or if there is no information for your specific area, you should consider having your well water tested. A test will tell you the arsenic level in your well water and the types of arsenic that are present. Knowing the type of arsenic can be helpful in deciding what treatment system to use.

¹ Parts per billion is the same as micrograms per liter (ug/L).

The most affected counties in Maryland are:

Queen Anne's	(410) 758-0721	Talbot	(410) 819-5600	St. Mary's	(301) 475-4330
Worcester	(410) 632-1100	Caroline	(410) 479-8030	Dorchester	(410) 228-3223

What can I do to reduce the arsenic in my well water?

If the arsenic in your well is over the 10 ppb MCL, you should consider installing a treatment system to reduce the long-term exposure risks to you and your family. Arsenic can be reduced or removed entirely from drinking water, but it can be expensive and require careful maintenance and monitoring. Currently available treatment processes include adsorption, reverse osmosis, distillation, and ion exchange. Please refer to the MDE fact sheet on arsenic removal systems (www.mde.state.md.us, or contact the Water Supply Program at MDE 410-537-3729). Other alternatives may include installing a new well, using bottled water, or connecting to a public water source in your area. Before deciding on treatment equipment you can obtain additional information and advice from MDE or the local County Health Department.

More information:

Health Information about Arsenic, MDE <http://www.mde.state.md.us>

Arsenic in ground water of the United States, U.S. Geological Survey

<http://water.usgs.gov/nawqa/trace/arsenic/>

Drinking Water and Health, EPA <http://www.epa.gov/safewater/dwh/index.html>

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