



# MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

## **Arsenic in Noncommunity Water Supplies Frequently Asked Questions and Answers**

### **Where does arsenic come from and how does it get in drinking water?**

Arsenic is a natural component of some underground rock and soil formations and thus leaches into the groundwater when it dissolves. Arsenic is also used in wood preservatives, paint, dyes, metals, and in agriculture, although, the primary source in Michigan water supplies is naturally occurring.

### **What health effects are associated with consuming too much arsenic in drinking water?**

People consuming high levels of arsenic over many years could experience skin damage or problems with their circulatory system and may have an increased risk of certain types of cancer.

### **What is the allowable limit of arsenic in drinking water?**

The maximum contaminant level (MCL) is 10 parts per billion (ppb) or 0.010 parts per million (ppm).

### **Who does the standard apply to and when does it have to be met?**

The drinking water standard or MCL applies to nontransient noncommunity (and community) water systems. The standard was put into effect by the United States Environmental Protection Agency (USEPA) on March 22, 2002.

### **How many systems have arsenic above the standard?**

It is estimated about 300 of the 1600 nontransient water supplies in Michigan have arsenic levels that exceed the 10 parts per billion standard. The majority are located in a band of counties from Jackson and Washtenaw running northeast to Huron County at the tip of Michigan's "thumb." However, elevated arsenic in the groundwater is not limited to these areas, it can occur nearly anywhere in the state.

### **How is compliance with the arsenic MCL determined?**

Groundwater systems sample for arsenic once every three years with the first compliance cycle beginning January 1, 2005 and ending December 31, 2007. If the initial sample indicates significant levels of arsenic, quarterly sampling is required. If the running annual average after four consecutive quarters exceeds the MCL, the system is in violation of the standard. It is also a violation if one sample is more than 4 times the MCL.

### **If the water system exceeds the MCL for arsenic, is bottled water required to be provided to consumers while steps are taken to comply with the standard?**

Under most circumstances bottled water is not required by law if the arsenic MCL is exceeded. Arsenic is a chronic contaminant where health effects are based on years of exposure as opposed to an acute contaminant that can have serious health implications with a single exposure. Unusual situations such as an extremely high level of arsenic, a highly vulnerable population, or conditions of an enforcement agreement may involve requiring bottled water to be provided to consumers at nontransient noncommunity systems.

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## **ARSENIC FAQ -continued**

### **How can a water system with elevated arsenic comply with the standard?**

The circumstances vary by system but generally the options to consider include:

1. Connect to municipal water system where available.
2. Investigate drilling a new well that would meet the standard.
3. Investigate blending water with low arsenic wells onsite if available.
4. Obtain a permit to install and operate an arsenic removal system.

### **Where can I have the water tested for arsenic?**

Any laboratory certified by the DEQ for arsenic analysis can provide the analytical service. The DEQ laboratory also does analysis for arsenic. Sample units can be ordered from them by calling 517-335-8184 or by fax 517-335-8562. The current cost is \$18 (subject to change). Sample units for the DEQ lab arsenic testing may also be available at your local health department.

For more information contact:

**DEQ, Noncommunity Unit: 517-241-1370, or your local health department, or go to [www.michigan.gov/deq](http://www.michigan.gov/deq) then link to *WATER*, *DRINKING WATER*, and *NONCOMMUNITY UNIT* or *DRINKING WATER ANALYSIS LABORATORY*.**