

# PUBLIC HEALTH FACT SHEET



COUNTY MICHIGAN  
HEALTH DIVISION

Department of Health & Human Services

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## Arsenic

### What is Arsenic?

Arsenic is found in nature at low levels. Most arsenic compounds have no smell or taste.

- Arsenic joins with oxygen, chlorine, and sulfur to make inorganic arsenic compounds. Inorganic arsenic compounds are used to preserve wood, and make insecticides and weed killers.
- Arsenic in plants and animals combines with carbon and hydrogen to make organic arsenic. Organic arsenic is usually less harmful than inorganic arsenic.

Check the labels of treated wood and insecticides to see if they contain arsenic.

### How are people exposed to Arsenic?

As a natural part of our environment, everyone is exposed to some amount of arsenic. You can come in contact with arsenic in the following ways:

- from the food you eat every day. Some fish and seafood contain arsenic. This organic type of arsenic is much less harmful to humans than inorganic arsenic.
- by either drinking water contaminated with arsenic or by eating food that has been cooked in this water. Arsenic found in well water is absorbed through the stomach and the intestines. Arsenic in water or food does not contaminate the air when it evaporates and is not easily absorbed through the skin when bathing or swimming.
- by inhaling smoke from burning materials containing arsenic; like wood treated with preservatives. Arsenic can also be absorbed by breathing contaminated air, as in industrial settings.

### How can Arsenic get into drinking water?

Mineral deposits in some areas of Michigan contain high levels of arsenic. Groundwater flowing through these deposits can dissolve arsenic from the minerals. This may result in elevated levels of arsenic in well water.

Arsenic has no smell or taste in drinking water. You need to test your well water to find out if arsenic is present.

### Will Arsenic in water cause health problems?

If you are exposed to arsenic, several factors that work in combination with each other will determine whether harmful health effects may occur. These factors are:

- dose - How much arsenic is in my body?
- duration - How long and how often have I been exposed?
- type of arsenic - Have I been exposed to inorganic or organic arsenic?
- general health, nutritional status, age, and lifestyle

Some people may be affected by small levels of arsenic, others may not. Young children, the elderly, people with long-term illnesses, and unborn babies are at greatest risk. They can be more sensitive to chemical exposures.

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## **What are the health effects of Arsenic poisoning?**

The way arsenic harms our bodies is not fully known. Studies have not shown all the health problems caused by drinking contaminated water found in Michigan wells.

Based on studies in other countries, long-term exposure to high arsenic levels in drinking water has caused the following health effects:

- thickening and discoloration of the skin. Sometimes these changes can lead to skin cancers. These cancers can be cured if discovered early.
- stomach pain, nausea, vomiting and diarrhea.
- numbness in the hands and feet.

Some of these problems can be seen with other illnesses, which makes it difficult for a doctor to detect arsenic poisoning. If you or your family are worried about health problems caused by arsenic, see your doctor. You should also have your well water tested.

## **Can a medical test tell me how much Arsenic is in the body?**

Yes, there are several ways you can be tested for arsenic exposure. A urine test is a simple way to tell if you are being exposed to harmful levels of arsenic. However, this test will not tell you what type of arsenic is in your body. To get the most accurate urine test results, do not eat any fish or seafood for at least three days before your test.

## **Who can test well water?**

The Health Division can give you a list of certified laboratories that will test for arsenic in your water. The Michigan Department of Environmental Quality Laboratory may also help.

## **What should be done if there is an elevated amount of Arsenic in the well?**

Stop using your well water for drinking and cooking food. Use bottled water for these purposes. You may wish to have one or more additional water samples tested to confirm that your water is above acceptable levels.

Consider connecting to a public water supply, if one is available. Another option is to drill a new well at a different depth, either deeper or more shallow. In some cases it may be possible to extend the existing casing deeper.

In-home water treatment devices are not a permanent solution. These devices require maintenance and should be considered only after other options have been considered. Reverse Osmosis (RO) is not certified for the removal or reduction of naturally occurring arsenic, unless the supply water is pretreated by chlorination.

For more information contact the Oakland County Health Division/Environmental Health Services before replacing your well or if you have any questions.

**For more information on Arsenic, call (248) 858-1406 or toll free 1 (800) 848-5533.**

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