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Environmental Health FACT SHEET

ARSENIC IN GROUNDWATER

This pamphlet provides answers to questions about arsenic in drinking water. It will explain what arsenic is, how it can enter groundwater, how it can affect your health, and what you can do to prevent or reduce exposure to it.

Arsenic is a metal-like substance found in small amounts in nature. Elevated levels of arsenic can be found naturally in groundwater in some areas of Illinois. Arsenic in groundwater also may be the result of contamination caused by hazardous waste or industries that make or use arsenic. Drinking water containing high levels of arsenic may cause health problems.

HOW MIGHT I BE EXPOSED TO ARSENIC?

A person can come into contact with arsenic in many different ways. Since it is a natural part of the environment, everyone is exposed to small amounts of arsenic. For most people, the largest source of arsenic is in the food we eat. Most foods, including vegetables, fish, and seafood, contain some arsenic. Arsenic in groundwater can enter the body by drinking the water or by eating food cooked in the water. Arsenic does not evaporate into the air and is not easily absorbed through the skin.

HOW CAN ARSENIC GET INTO MY DRINKING WATER?

There are two main ways arsenic can get into your drinking water. Mineral deposits in some areas of Illinois naturally contain high levels of arsenic. Groundwater flowing through these deposits can dissolve arsenic from the minerals. This can increase the amount of arsenic in your well water.

Another way arsenic can get into your water is by contact with hazardous waste. Waste material containing arsenic is produced by industries that make or use arsenic. Arsenic has been used as a wood preservative, in pesticides, and in special kinds of glass. Improper disposal of this waste can contaminate groundwater.

Arsenic has no smell or taste, so you cannot tell if it is in your drinking water. The only way to find out if your well water has high levels of arsenic is to have it tested.

HOW CAN ARSENIC AFFECT MY HEALTH?

Health effects caused by arsenic depend on a variety of things. These include the type and amount of arsenic that has entered the body, how long you have been exposed to arsenic, and how the body responds to arsenic. Unborn babies, young children, people with long-term illnesses and elderly people are at greatest risk due to arsenic exposure.

How arsenic affects health is not fully known. Studies in the United States have not clearly proved that health problems result from drinking water with arsenic levels similar to those naturally found in groundwater in some Illinois wells. Studies in other countries have shown that drinking water containing elevated levels of arsenic can cause the following health effects:

- Thickening and discoloration of the skin. Sometimes these changes can lead to skin cancer, which may be curable if discovered early.
- Digestive problems such as stomach pain, nausea, vomiting, and diarrhea.
- Numbness in the hands and feet.

Many of these health effects are often seen with other common illnesses, so detecting arsenic poisoning can be difficult.

If you or your family members are concerned about health problems you believe to be related to arsenic in your water, you should consult your physician and have your well water tested.

HOW CAN I GET MY WELL WATER TESTED?

Many commercial laboratories will test for arsenic in your water for a small fee. The Illinois Department of Public Health (IDPH) laboratories can test a sample as well. Contact your local health department or a regional IDPH office for information and assistance.

IS THERE AN ACCEPTABLE LEVEL OF ARSENIC IN DRINKING WATER?

In October 2001, the U.S. Environmental Protection Agency (USEPA) established a new maximum level for arsenic in public water supplies. The new USEPA standard is 10 parts per billion or 0.01 parts per million; however, public water supplies have until January 2006 to meet this new standard. This level also serves as a guideline for an acceptable level in private wells. Staff at the Illinois Department of Public Health can explain your well water test results.

HOW CAN I REDUCE MY EXPOSURE TO ARSENIC IN MY WATER?

If elevated levels of arsenic are found in your well, we recommend that you stop using your well water for drinking and preparing food. Bottled water can serve as an alternative for these purposes. You can continue to use your well water for bathing and washing clothes

without concern.

IS THERE A TEST TO DETERMINE IF I HAVE BEEN EXPOSED TO ARSENIC?

If you think you have been exposed to arsenic, you should consult your doctor. Arsenic can be measured in blood, urine, hair, or nails. Of these, a urine test is the simplest way to tell if you are being exposed to arsenic at levels of concern. Hair and nail tests show if you have been exposed to arsenic in the past.

WHERE CAN I GET MORE INFORMATION?

Illinois Department of Public Health
Division of Environmental Health
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217-782-5830
TTY (hearing impaired use only) 800-547-0466

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