

# Arsenic in Drinking Water

Although arsenic has often been used as the poison of choice in murder mysteries, such as *Arsenic and Old Lace*, the reality is that arsenic in our environment is found in very small levels, too small to be of use to anyone with homicidal intent and much too small to pose an immediate health threat to people. However, even small amounts of arsenic, if consumed over a long period of time, can cause adverse health effects.

Arsenic occurs naturally in our environment. It is part of the earth's crust. As a natural component of underground rock and soil, arsenic works its way into groundwater. As a result, municipalities and other public water suppliers that get water from underground sources may draw water from their wells that contains small amounts of arsenic.

Groundwater in the west-central and northwestern parts of Minnesota tend to have higher concentrations of arsenic, although arsenic can be found throughout a large part of the state.

Arsenic is regulated in drinking water and a maximum allowable limit—known as a maximum contaminant level (MCL)—has been set for it. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system and may have an increased risk of getting cancer.

For many years, the maximum contaminant level was 50 parts per billion (ppb). During the 1990s, however, it was determined that this level was too high to provide for maximum public health protection, and the U. S. Environmental Protection Agency (EPA) decided to lower the MCL to 10 parts per billion in 2006.

The Minnesota Department of Health monitors its public water suppliers to determine which systems have arsenic levels in excess of 10 ppb. Approximately 10 to 12 public water systems are out of compliance and are evaluating options to meet the stricter standard of 10 ppb.

Water systems are underway with planning and engineering efforts to determine its options and to make decisions about actions they will have to take to reduce arsenic levels in order to comply with the new maximum contaminant rule.

Residents of community water systems can find out the arsenic levels, if any, in their drinking water by reading the Water Quality Report (sometimes referred to as the Consumer Confidence Report) that is issued each year by their water utility. Those wishing to take extra precautions may install a point-of-use water treatment system in their home. Distillation, reverse osmosis, columns of anion exchange, and columns of absorptive media may be used to reduce arsenic levels. Bottled water, which may have a lower arsenic level than that of the local water supply, is another alternative.



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