EPA United States Environmental Protection Agency

Water: Basic Information about Regulated Drinking Water Contaminants

Basic Information about Arsenic in Drinking Water

The United States Environmental Protection Agency (EPA) regulates arsenic in drinking water to protect public health. Arsenic may cause health problems if present in public or private water supplies in amounts greater than the drinking water standard set by EPA.

Arsenic at a Glance

Maximum Contaminant Level (MCL) = 0.010 milligrams per Liter (mg/L) or 10 parts per billion (ppb)

Maximum Contaminant Level Goal (MCLG) = zero

Health Effects
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.

Drinking Water Health Advisories provide more information on health effects

Chemical Abstract Service Registry Number
7440-38-2

Sources of Contamination
Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes

List of all Regulated Contaminants (PDF) (6 pp, 396K, About PDF)

What is arsenic?
Arsenic is a semi-metal element in the periodic table. It is odorless and tasteless. It enters drinking water supplies from natural deposits in the earth or from agricultural and industrial practices.

Uses for arsenic.
Approximately 90 percent of industrial arsenic in the U.S. is currently used as a wood preservative, but arsenic is also used in paints, dyes, metals, drugs, soaps, and semi-conductors. Agricultural applications, mining, and smelting also contribute to arsenic releases in the environment.

What are arsenic's health effects?
Some people who drink water containingarsenic well in excess of the MCL for many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

This health effects language is not intended to catalog all possible health effects for arsenic. Rather, it is intended to inform consumers of some of the possible health effects associated with epichlorohydrin in drinking water when the rule was finalized.

What are EPA's drinking water regulations for arsenic?
In 1974, Congress passed the Safe Drinking Water Act. This law requires EPA to determine the level of contaminants in drinking water at which no adverse health effects are likely to occur. These non-enforceable health goals, based solely on possible health risks and exposure over a lifetime with an adequate margin of safety, are called maximum contaminant level goals (MCLG). Contaminants are any physical, chemical, biological or radiological substances or matter in water.

The MCLG for arsenic is zero. EPA has set this level of protection based on the best available science to prevent potential health problems. Based on the MCLG, EPA has set an enforceable regulation for arsenic, called a maximum contaminant level (MCL), at 0.010 mg/L or 10 ppb. MCLs are set as close to the health goals as possible, considering cost, benefits and the ability of public water systems to detect and remove contaminants using suitable treatment technologies.

The Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring Final Rule, the regulation for arsenic, became effective in 2002. The Safe Drinking Water Act requires EPA to periodically review and revise contaminants, if appropriate, based on new scientific data. The regulation for arsenic will be included in a future review cycle.

- More information on the Six Year Review of Drinking Water Standards.

States may set more stringent drinking water MCLGs and MCLs for arsenic than EPA.

How does arsenic get into my drinking water?
The major sources of arsenic in drinking water are erosion of natural deposits; runoff from orchards; and runoff from glass & electronics production wastes.

A federal law called the Emergency Planning and Community Right to Know Act (EPCRA) requires facilities in certain industries, which manufacture, process, or use significant amounts of toxic chemicals, to report annually on their releases of these chemicals. For more information on the uses and releases of chemicals in your state, contact the: Community Right-to-Know Hotline: (800) 424-9346.

- EPA's Toxics Release Inventory (TRI) Web site provides information about the types and amounts of toxic chemicals that are released each year to the air, water, and land.

How will I know if arsenic is in my drinking water?
When routine monitoring indicates that arseniclevels are above the MCL, your water supplier must take steps to reduce the amount of arsenicso that it is below that level. Water suppliers must notify their customers as soon as practical or within 30 days after a violation occurs. Additional actions, such as providing alternative drinking water supplies, may be required to prevent serious risks to public health.

- See EPA's public notification requirements for public water systems.

If your water comes from a household well, check with your health department or local water systems that use ground water for information on contaminants of concern in your area.

- For more information on wells, go to EPA's Web site on private wells.

How will arsenic be removed from my drinking water?

The following treatment method(s) have proven to be effective for removing arsenic to below 0.010 mg/L or 10 ppb: adsorption media, ion exchange, coagulation/filtration, oxidation/filtration, and point-of-use or point-of-entry treatment using activated alumina or reverse osmosis.

How do I learn more about my drinking water?

EPA strongly encourages people to learn more about their drinking water, and to support local efforts to protect and upgrade the supply of safe drinking water. Your water bill or telephone book's government listings are a good starting point for local information.

Contact your water utility. EPA requires all community water systems to prepare and deliver an annual consumer confidence report (CCR) (sometimes called a water quality report) for their customers by July 1 of each year. If your water provider is not a community water system, or if you have a private water supply, request a copy from a nearby community water system.

- The CCR summarizes information regarding sources used (i.e., rivers, lakes, reservoirs, or aquifers), detected contaminants, compliance and educational information.
- Some water suppliers have posted their annual reports on EPA's Web site.

Other EPA Web sites

- Find an answer or ask a question about drinking water contaminants on EPA's EPA's Question and Answer Web site or call EPA's Safe Drinking Water Hotline at (800) 426-4791.
- EPA's Arsenic in Drinking Water
- EPA's Integrated Risk Information System
- EPA's Substance Registry System

Other Federal Departments and Agencies

- US Agency for Toxic Substances and Disease Registry ToxFAQs
- US Agency for Toxic Substances and Disease Registry Toxicological Profile

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