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http://water.epa.gov/drink/contaminants/basicinformation/benzene.cfm

Water: Basic Information about Regulated Drinking Water Contaminants

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Basic Information about Benzene in Drinking Water

EPA regulates benzene in drinking water to protect public health. Benzene may cause health problems if present in public or private water supplies in amounts greater than the drinking water standard set by EPA.

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What is benzene?

Benzene, a volatile organic chemical, is a clear, colorless aromatic liquid. It is highly flammable. It is formed through natural processes, such as volcanoes and forest fires. It is also formed from industrial processes. Benzene is also a natural part of crude oil, gasoline and cigarette smoke.

Uses for benzene

The greatest use of benzene is as a building block for making plastics, rubber, resins and synthetic fabrics like nylon and polyester. Other uses include: as a solvent in printing, paints, dry cleaning, etc.

If you are concerned about benzene in a private well, please visit:

- [EPA's private drinking water wells website](#)
- [Water Systems Council website](#) [EXIT Disclaimer](#)

What are benzene's health effects?

Some people who drink water containing benzene well in excess of the maximum contaminant level (MCL) for many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.

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

What are EPA's drinking water regulations for benzene?

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 benzene is zero. EPA has set this level of protection based on the best available science to prevent potential health problems. EPA has set an enforceable regulation for benzene, called a maximum contaminant level (MCL), at 0.005 mg/L or 5 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 Phase I Rule, the regulation for benzene, became effective in 1989. The Safe Drinking Water Act requires EPA to periodically review the national primary drinking water regulation for each contaminant and revise the regulation, if appropriate. EPA reviewed benzene as part of the Six Year Review and determined that the MCLG and 0.005 mg/L or 5 ppb MCL for benzene are still protective of human health.

- [More information on the Six Year Review of Drinking Water Standards.](#)

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

How does benzene get into my drinking water?

The major sources of benzene in drinking water are discharge from factories; and leaching from gas storage tanks and landfills.

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 \(TRI\) website 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 benzene is in my drinking water?

When routine monitoring indicates that benzene levels are above the MCL, your water supplier must take steps to reduce the amount of benzene so that it is below that level. Water suppliers must notify their customers as soon as practical, but no later than 30 days after the system learns of the violation. Additional actions, such as providing

Benzene at a Glance

Maximum Contaminant Level (MCL) =
0.005 milligrams per Liter (mg/L) or 5 parts per billion (ppb)

Maximum Contaminant Level Goal (MCLG) = zero

Health Effects

Some people who drink water containing benzene in excess of the MCL over many years could experience anemia; decrease in blood platelets; increased risk of cancer.

[Drinking Water Health Advisories provide more information on health effects](#)

Chemical Abstract Service Registry Number

71-43-2

Sources of Contamination

Discharge from factories; leaching from gas storage tanks and landfills

[List of all Regulated Contaminants \(PDF\)](#)
(6 pp, 396 K, [About PDF](#))

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 website on private wells.](#)

How will benzene be removed from my drinking water?

The following treatment method(s) have proven to be effective for removing benzene to below 0.005 mg/L or 5 ppb: granular carbon in combination with packed tower aeration.

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 the supply of safe drinking water and upgrade the community water system. 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 website.](#)

Other EPA websites

- Find an answer or ask a question about drinking water contaminants on [EPA's Question and Answer website](#) or call [EPA's Safe Drinking Water Hotline](#) at (800) 426-4791
- [EPA's Air Toxics Technology Transfer Network on Benzene](#)
- [EPA's Integrated Risk Information System](#)

Other Federal Departments and Agencies

- [Centers for Disease Control and Prevention, Facts about Benzene](#)
- [National Institutes of Health, National Library of Medicine, ToxTown, Benzene](#)

Last updated on Tuesday, September 17, 2013