



Chemicals in Private Drinking Water Wells Fact Sheet

Florida Department of Health, Division of Environmental Health

This fact sheet discusses possible health risk from exposure to low levels of bis(2-ethylhexyl) phthalate typically found in private drinking water wells.

Bis(2-ethylhexyl) phthalate (DEHP)

What is DEHP?

Bis(2-ethylhexyl) phthalate is a synthetic colorless liquid with almost no odor. It is also known as Di(2-ethylhexyl) phthalate or DEHP. DEHP is commonly added to plastics to make them flexible.

How might I be exposed to DEHP in my drinking water?

- Drinking water from a contaminated well
- Living near uncontrolled hazardous waste sites containing DEHP products

What is the standard for DEHP in drinking water?

The Florida Department of Environmental Protection's (DEP) drinking water standard for DEHP in drinking water is 6 micrograms per liter of water (6 ug/L). There is no required sampling of private drinking water wells.

How can DEHP affect my health?

To protect health, drinking water standards are set at very low levels. Drinking water every day at or below the drinking water standard for your entire lifetime is unlikely to cause illness.

To set drinking water standards, scientists study reports of people exposed to chemicals at work. They also study reports of experiments with animals. From these reports, they determine a "no-effect level" or level that does not cause illness. Then, to be on the safe side, scientists typically set drinking water standards hundreds or thousands of times less than the "no-effect level." Therefore, drinking water with levels slightly above the standard for a short time period does not significantly increase the risk of illness. The risk of illness, however, increases as the level of DEHP increases and the length of time you drink the water increases.

The type and severity of health effects associated with exposure to a particular chemical depends on a number of factors:

- How much of the chemical was someone exposed to each time?
- How long did the exposure last?
- How often did the exposure occur?
- What was the route of exposure? (Did someone eat, drink or breathe the chemical into their body?)

Health effects are also determined by a number of personal factors. From person to person, how someone is affected by a chemical exposure ranges widely. The drinking water standard is set to protect the most sensitive individuals. Health effects are also determined by a number of personal factors. These include:

- How old are they?
- What gender are they?
- Is the person generally healthy or do they already have other health problems?

- What are their health habits? (For instance, do they drink alcohol or smoke tobacco?)
- How likely are they to be affected by exposure to a chemical, in general?

Drinking water with levels of DEHP well above the drinking water standard for extended periods increases the risk of damage to the liver and testes.

How likely is DEHP to cause cancer?

The ability of DEHP to cause cancer in humans is unknown. The US Department of Health and Human Services has determined that DEHP may reasonably be anticipated to cause cancer. The EPA has determined that DEHP probably causes cancer. These determinations are based entirely on liver cancer in rats and mice. The International Agency for Research on Cancer has stated that DEHP cannot be classified as to its ability to cause cancer. The drinking water standard is set to protect against the risk of cancer.

Is there a medical test to see if I have been exposed to DEHP?

There is a test available that measures a breakdown product of DEHP called mono(2-ethylhexyl) phthalate (MEHP) in your urine or blood. The test can only detect recent exposure because DEHP is rapidly broken down and eliminated from your body. This test is not routinely available at the doctor's office because it requires special equipment.

Should I continue to use my drinking water if DEHP is found?

Levels of DEHP less than the drinking water standard of 6 ug/L are not likely to cause illness. Drinking water with levels slightly above the drinking water standard for a short time period does not significantly increase the risk of illness. However, because the risk of illness increases with how much of a chemical a person is exposed to, how often an exposure occurs and how long the exposure lasts, you should seek drinking water that meets the standard.

Who can you contact for more health information?

Please call the Florida Department of Health toll-free help line 877-798-2772 weekdays from 10:00 a.m. to 7:00 pm. Outside of Florida, please call 850-245-4299 between 8:00 a.m. and 5:00 p.m. Or visit us online at: www.myfloridaeh.com

For more information about the health effects from exposure to this chemical in different situations and at higher levels than those usually found in drinking water wells, please see the ATSDR ToxFAQs for DEHP at: www.atsdr.cdc.gov/tfacts9.pdf