



**Chemicals in Private Drinking Water Wells
Fact Sheet
Florida Department of Health, Bureau of Environmental Health**

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

Di(2-ethylhexyl) phthalate (DEHP)

What is DEHP?

Di(2-ethylhexyl) phthalate (DEHP) is a colorless liquid with almost no odor. Another name for this chemical is bis(2-ethylhexyl) phthalate. Plastic manufacturers commonly add DEHP to their products to make them flexible.

How might exposure to DEHP in drinking water occur?

- 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 drinking water standard for DEHP 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 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 (eating, drinking, or breathing)?

How chemical exposures may affect someone can range widely from one person to the next. The drinking water standard is set to protect the most sensitive individuals exposed to a chemical. A number of personal factors also determine health effects. 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 chemical exposures to affect someone, 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 U.S. Department of Health and Human Services (DHHS) and the U.S. Environmental Protection Agency (EPA) consider DEHP as reasonably likely to cause cancer. The agencies based these findings solely on liver cancer in rats and mice. The International Agency for Research on Cancer has stated that it cannot classify DEHP 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 for DEHP exposures?

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

Is it safe to keep drinking water with DEHP in it?

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 standard for a short time does not significantly increase the risk of illness. However, because health risks increase as the levels of a chemical (or how long a person drinks it) increases, it is best to drink water that meets standards.

For additional health information, please call the Florida Department of Health at 850-245-4240 or visit us online at www.floridahealth.gov/environmental-health/drinking-water/Chemicals-HALs.html

For more information about the health effects from exposure to DEHP 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/toxfaqs/tfacts9.pdf