

Napa County

Drinking Water Fact Sheet: Nitrates



What are nitrates and how do they end up in groundwater? Nitrates are chemical compounds that can find their way into groundwater from the runoff and leaching from fertilizer use, leaching from septic tanks and sewage systems, and erosion of natural deposits. When fertilizers are applied to the soil or sewage is deposited into the ground, nitrates can move through the soil and into the groundwater below.

How much is too much? The California Department of Public Health (CDPH) sets Maximum Contaminant Levels (MCLs) for contaminants, based on health risks, available technology and economics. Public Health Goals (PHG) are set by the Office of Environmental Health and Hazard Assessment and are the nonenforceable levels set for chemical contaminants that do not pose a significant health risk. CDPH is required to set the enforceable drinking water standard as close to the PHG as technically and economically feasible.

The current MCL for nitrate was set at 45 mg/l and for nitrite at 1 mg/L, and the public health goal has been set at 10 mg/l and 1 mg/l respectively. These goals have been set primarily because excessive levels of nitrate in drinking water have caused serious illness and sometimes death. The serious illness in infants is due to the conversion of nitrate to nitrite by the body, which can interfere with the oxygen-carrying capacity of the child's blood, resulting in a condition sometimes called "blue baby." This can be an acute condition in which health deteriorates rapidly over a period of days. Symptoms include shortness of breath and blueness of the skin.

What should you do? Don't panic. Nitrate levels in the Napa Valley groundwater are generally below the set PHG; however, each well is unique and should be tested. If the nitrate levels exceed the PHG or you suspect that your well may exceed the PHG, do not drink the water or use it for cooking.

If your water is provided by a public agency, the water is already required to meet the MCLs set by DHS.

If your drinking water source is a private well, especially a well in an area with current or historical agricultural use and or septic system use, it is a good idea to have your water tested for nitrate. Poorly constructed wells pose even a higher risk of becoming contaminated.

Napa County currently does not provide nitrate testing; however, State Certified Laboratories in the area do provide this service. If you choose to test your well, call the lab directly for instructions on how to collect a sample and submit it for testing. Once the water is tested, the Department of Environmental Management can help interpret the results and water treatment companies can review treatment options with you. Treating for nitrates can be costly, so homeowner may simply choose to use bottled water for drinking and cooking.

This fact sheet is provided by the Napa County Department of Environmental Management to assist individuals in making informed decisions about their groundwater.