

FACT SHEET: NITRATES IN DRINKING WATER



Nitrate occurs naturally in surface and groundwater at low levels. High levels of nitrates in well water, however, can be a health concern for pregnant women and infants. Nitrates are mainly used as fertilizers, but sources also include leaking septic tanks (sewage), animal feedlots, and erosion of natural deposits.

Nitrates are considered elevated if the level is above the maximum contaminant level of 10 parts per million (ppm), as determined by the U.S. Environmental Protection Agency for public water suppliers. This level is mandatory for all public (municipal) water systems and recommended for private wells.

What are the health risks associated with nitrates in drinking water?

Too much nitrate in drinking water poses a risk to pregnant women and infants less than six months old. Bacteria which are present in an infant's stomach can convert nitrate to nitrite, a chemical which can interfere with the ability of the infant's blood to carry oxygen. This is commonly referred to as "Blue Baby Syndrome". As an infant ages, its stomach acidity increases, reducing the numbers of nitrite-producing bacteria and the conversion of nitrate to nitrite in the stomach no longer occurs. Most adults can consume large amounts of nitrate with no ill effects. The average adult consumes about 20-25 milligrams of nitrate-nitrogen every day in food, largely from vegetables.

What can I do if my water has elevated nitrates?

Nitrates may be successfully removed from water using treatment processes such as ion exchange, distillation, and reverse osmosis. For more information on treatment, please contact a professional water treatment company. When selecting a water treatment system, it is important that you verify that the technology is safe, effective, and has been certified. NSF International (www.nsf.org) and/or the Water Quality Association (www.wqa.org) provide certification of water treatment systems.

What should I NOT do if my water has elevated nitrates?

Heating or boiling your water will not remove nitrate. Because some of the water will evaporate during the boiling process, the nitrate levels of water can actually increase slightly in concentration if the water is boiled. Mechanical filters or chemical disinfection, such as chlorination, DO NOT remove nitrate from water.

Additional Information

<http://water.epa.gov/drink/contaminants/basicinformation/nitrate.cfm> (EPA Fact Sheet)

<http://www.cdc.gov/healthywater/drinking/private/wells/disease/nitrate.html> (CDC Fact Sheet)