NITRATES

Human Health Concerns

An excess of nitrates in drinking water is of particular concern for infants under six months of age. A condition termed methemoglobinemia, sometimes referred to as "blue baby disease," can occur when an infant ingests water containing an excessive amount of nitrates. The end result, if the water condition is undetected and not corrected, can be infant fatality.

Some health officials, to be on the safe side, recommend that children up to five years in age not drink water having a nitrate-nitrogen (NO₃-N) concentration above the acceptable maximum contaminant level (MCL) of 10 milligrams per liter (mg/l).

With adults, drinking water that has a higher concentration of nitrate-nitrogen than 10 mg/l is not a concern unless the adult is experiencing problems with enzyme deficiency or has a deficiency in erythrocyte metabolism, has chronic anemia, has gastric diseases that reduce hydrochloric acid, is an individual of the hemoglobin type or has had a previous diagnosis of methemoglobinemia for any reason, or has a pulmonary disease where oxygen therapy is required.

Although the supportive evidence is lacking, it is not recommended that pregnant mothers or nursing mothers drink water having a nitrate-nitrogen concentration of 10 mg/l or greater.

Water Analysis Information

A listing of approved local private water laboratories can be obtained from the State of Connecticut Department of Health Services.

Note: Before collecting a water sample, check with the laboratory as to what type of container should be used and how the water sample is to be collected. Some laboratories will come to your home and collect the water sample for laboratory analysis.

It is important to know how your water analysis is being reported when interpreting the results. Although the water analysis is usually reported as NO₃-N, it sometimes is given as nitrate (NO₃). If a water analysis is reported as nitrate, divide by 4.5 to obtain the amount of nitrogen in the nitrate form, e.g., 45mg/l as NO₃ = 10 mg/l as NO₃-N. Both of these values represent MCL. One mg/l is equal to one part per million (ppm).

For information on how to address a private well water nitrate problem, request Water Quality Fact Sheet No.7.

Animal Water Consumption of Nitrates

In excessive quantities of 100 mg/l NO₃-N, or greater in livestock drinking water, nitrates could possibly contribute to animal health or production problems. Fortunately, Connecticut water quality nitrate levels have not been in this category.

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