



**Monterey County Health Department  
Consolidated Environmental Laboratory**

1270 Natividad Rd., Rm. 118  
Salinas, CA 93906  
(831) 755-4516

## **NITRATES**

**PURPOSE:** Nitrate is an inorganic chemical regulated by the Safe Drinking Water Act. Nitrate is normally present in water at low levels, but can increase because of contamination from sources such as improper sewage disposal, septic systems, feed lots, animal and human wastes, and perhaps the single greatest source - nitrogen fertilizers. Fertilizers applied in excess of a crop's needs or soil capacity to process the nitrogen is eventually transported below the root zone of the plant. There, nitrifying soil bacteria in the presence of oxygen convert the nitrogenous compounds into nitrate. This nitrate is soluble and readily percolates into the ground water table or enters nearby rivers and streams with rainwater runoff.

In excessive amounts, nitrate has adverse health effects. Infants are particularly vulnerable to nitrates, which cause a disease known as methemoglobinemia or blue baby syndrome. Other health affects that have been attributed to excessive exposure to nitrates include birth defects and certain cancers. Generally, the amount of nitrates consumed in foods far exceeds the amount contributed by drinking water.

**SAMPLE COLLECTION:** Water samples taken for nitrate testing must be collected and handled properly in order to insure reliability of laboratory results. The following procedures will help you in this regard:

1. Select a tap as close to the well as possible. When you have found a suitable faucet, open it and allow water to flow for a few minutes before collecting a sample.
2. Carefully fill the one-½ pint plastic container provided by the laboratory.
3. Label the sample with sample identification, date and time of collection.
4. Complete the laboratory form including mailing address, name of sample collector, well number, description of sample point, date and time of collection, and test ordered (i.e. "NITRATES").

### **CARE OF SAMPLE:**

*Nitrate samples must be tested within 48 hours of collection. To assure that this time limit is met, it is preferable to submit the sample directly to the laboratory, Monday thru Friday (8:00 a.m. to 3:00 p.m.) or one of the following health department offices on the same day of collection:*

Monterey Co. Environmental Health  
1200 Aguajito Rd.  
Monterey, CA  
831-647-7654

Monterey Co. Environmental Health  
200 Broadway St. Suite 70  
King City, CA  
831-386-6899

Monterey - Drop off by 9:00 a.m.

King City – Drop off by 9:00 a.m.

**FEE FOR TESTING**

The fee for nitrate testing is \$27.00. If you do not have an account with our laboratory, you must pay in advance for this testing. Clients who have an account will be billed at the end of the month that the results are reported.

**INTERPRETATION OF RESULTS**

The Environmental Protection Agency and the State Department of Health consider 45 mg/L to be the maximum allowable level of nitrate in drinking water. Individuals connected to a water system that exceeds the maximum contaminant level for Nitrate should be promptly notified. Effective treatment methods are available for reducing the level of nitrate in drinking water. The most effective of these is reverse osmosis (RO), which uses semi-permeable membranes to filter the water. These membranes trap large molecules such as nitrate but allow water (along with smaller molecules) to pass through. Further information on drinking water requirements and treatment can be obtained from Monterey County Environmental Health (755-4507).