

Nitrate/Nitrite Analysis (Community)

- **Purpose:** To determine the Nitrate concentration in drinking water. Determination will be done by using a test strip method. Industrial emissions are extensively responsible for the Nitrogen in the environment, which in turn breaks down to contribute the Nitrates contamination that we have to deal with, the farming community also contributes by adding nitrate-containing manures to our water system through runoff. There are many negative health effects related to Nitrate, some of which include blood deficiencies, thyroid problems, decreased vitamin A, and cancer. A 45 mg/L Canadian Guideline Limit Sample will be included for quality control purposes; this is also the aesthetic objective for Manganese according to the Canadian Drinking Water Guidelines.

Materials:

- 1 - 45 mg/L (ppm) Canadian Guideline Limit Sample.
- 2 - Test strip packets to determine Nitrate.
- 2- 10 mL disposable beakers.

Method:

1. Label the two beakers sample, and CGLS.
2. Put 10 mL of sample in their respective beakers.
3. Dip one test strip in water for 2 seconds with no motion.
4. Remove the test strip and allow colors to develop for 1 minute, by lying across top of beaker or vial.
5. Match Total Nitrate as Nitrogen (end pad), and record. Complete the colour reading within one minute, and record.
6. To convert Nitrate Nitrogen concentration to nitrate concentration, multiply the test strip result by 4.4.

Example: 5 ppm (your reading of Nitrate Nitrogen) X .4.4 = 22 ppm Nitrate.
Under normal circumstances there should be very little Nitrite in any sample.

Visit the Safe Drinking Water Foundation Website www.safewater.org to learn more about issues affecting safe drinking water.

Results

Compare results to Canadian Drinking Water Guidelines. The Canadian Guideline Limit Sample for Nitrate should give a result very close to the 45 ppm Nitrate limit; there should be no nitrite in the Canadian Guideline Limit Sample. A darker colour means that the water **Does Not** meet the Canadian Drinking Water Guidelines.

Safe Handling of Materials

Caution must be taken at all times when handling any chemicals. Although this test is safe to use in any area, please be cautious with the materials supplied.

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