**NITRATES**

Nutrients are a significant national problem contributing to water pollution. States reported that more than half of all lakes were affected. Just as applying fertilizer to gardens and farm fields helps crops grow, nutrients like nitrates entering lakes and rivers feed the growth of algae, bacteria, and other tiny organisms. Water bodies require some nutrients to be healthy, but too much can be harmful. When lakes receive an overabundance of nutrients, they can become polluted by excessive amounts of algae. Die-off and decomposition of algae blooms can reduce dissolved oxygen and suffocate fish and other aquatic life. Some forms of algae (blue-green) may produce toxins that can be harmful if ingested by humans and animals.

Common sources of excess nitrate reaching lakes and streams include septic systems, animal feed lots, agricultural fertilizers, manure, industrial waste waters, sanitary landfills, and garbage dumps.

Nitrate levels of 1 ppm or less are ideal for marine organisms.

1. **Fill the reaction tube to the 15 mL mark with the water to be tested.**
2. **Empty the contents of one Cadmium Foil Pack into the reaction tube.**

**Cap the reaction tube and shake for 3 minutes. Then let the sample**

**sit undisturbed for 2 minutes**

1. **Pour 10 mL of the treated sample into the sample cup being careful**

**not to transfer any of the cadmium particles into the sample cup.**

1. **Place the CHEMet ampoule in the sample cup. Snap the tip by**

**pressing the ampoule against the side of the cup. The ampoule**

**will fill leaving a small bubble to help with mixing.**

1. **Mix the contents of the ampoule by inverting several times,**

**allowing the bubble to travel from end to end. Dry the ampoule**

**and wait 10 minutes for color development.**

1. **Hold the comparator in a nearly horizontal position while standing**

**directly beneath a source of light. Find the color match.**

**Step 1: Fill cup with water to be tested.**

**Step 2: Dip one test strip in water for 2 seconds. Do not move the test strip around—just dip it and keep it still.**

**Step 3: Remove the strip from the water and wait 1 minute for the color to develop.**

**Step 4: Match the nitrate test strip with the color chart on the back of the Nitrate bottle.**

**Step 5: Write results on your chart in ppm.**

**Step 6: Empty cup for next group. Throw nitrate test strip in container provided.**