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NECi Cat. CM-NTK-100 Series

Cit-Mon Nitrate Test Kit Instructions

Tips & Notes

Store in a cool place (below 72°F/22°C), away from direct sunlight. Refrigerate if possible. The kit can withstand hot summer temperatures for 5 days. *Do not open the sealed packets or mix tube contents until ready to use.*

Water samples are best tested soon after collection. They may be refrigerated for up to one month if necessary. For best results, rinse your sample tubes with your sample water and avoid sediment and solids. Turbid samples are okay.

Don't forget to record where you got your samples. Label each tube!

Kit Contents (per 4 samples):

- 4 clear tubes with white screw caps
- 4 clear snap cap tubes (buffer)
- 1 squeeze bulb containing nitrate standard
- 5 snap cap tubes in sealed foil pouch (this is the enzyme)
- 4 plastic droppers
- 5 foil-sealed square tubes of color reagent powder, plus caps
- 1 cardboard test tube holder

You'll need:

- Marker for labeling tubes and samples
- Scissors to open squeeze bulb
- Pen for recording on data sheet!

Introduction: This kit contains everything you need to test water samples. We also provide *snip off* squeeze bulbs with nitrate standards at 1 ppm nitrate-N to help evaluate your results, and so you know the kit is working. This format can be used to run multiples of 4 samples and 1 standard at a time. Collect your water samples, and then run the tests and at least one standard all at once.

What to Expect: The nitrate value you get will tell you the nitrate content of your water sample. We can't guarantee the accuracy you would expect from a water testing lab. But you *will* get a number you can use for making decisions about use and further testing.

Step 1: Get your samples Collect approximately 5 ml of water in the sample tubes (white cap). Recap the tube. Be sure to **label the tube** and record the sample location on the data sheet. Repeat for each sample.

Step 2: Add samples from Step 1 to the snap cap tubes in the holder

Label the 4 snap cap tubes with buffer, in the holder, for your samples. Use a 1ml dropper to transfer 0.25 ml of your sample to the tube. Note the graduations on the dropper. 0.25 ml is the first graduation from the end (marked in photo). Squeeze the bulb end of the dropper and carefully draw your sample up to the 0.25 ml mark. Then transfer this amount to the snap cap tube. The tube should now have 1 ml of liquid in it. Recap the tube and mix thoroughly. **Repeat** for all 4 samples, using a different dropper for each sample.



Step 3: Prepare your standard

Remove the 5 snap cap tubes from the foil pouch. Set the tube with the **blue dot** apart from the others. Snip off the end of the squeeze bulb (from the holder) and empty contents into the tube with the **blue dot**: this is the **nitrate standard**. Cap and shake gently. Let this tube set for **at least 10 minutes**, shaking gently every few minutes.





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Notes:

Be sure you have labeled the snap cap tubes in Step 4 to match the water sample you mixed in Step 2.

You can let step 4 go as long as you want to, but be sure to **wait at least 10 minutes** before going on to Step 5. Don't forget to gently shake tubes several times.

Be sure to label the square tubes in Step 5 to match the label from the tubes in Step 4.

The Color is stable for a few days. You can keep the tubes to look at later.

This kit has been designed with nonhazardous reagents. It is safe to dispose of the liquids down the drain or on the ground. Spills can be wiped up with water and will not harm the skin. As with any household product, we do recommend you keep our Nitrate Test Kits out of the reach of children.

Step 4: Prepare your samples

Label the other **4** tubes from the foil pouch for your samples. Pour sample mixture from the tubes in Step 2 into these tubes. Try to transfer most of the liquid. Cap and shake gently. Let all tubes set for **at least 10 minutes**, shaking gently every few minutes.

Step 5: Color development

After at least **10 minutes**, pour the contents of the snap cap tube with the **blue dot** (from Step 3) into the **square foil covered tube** with the **blue dot** (the **nitrate standard**). Label one of the other 4 square foil covered tubes for each of your water samples. Pour the contents of each of the **4** tubes from Step 4 into the appropriately labeled square tube. Try to get most of the liquid transferred. Firmly seal all with a square cap and shake rapidly. Let these tubes develop for about 5 minutes, shaking them several times to try to dissolve most of the powder.

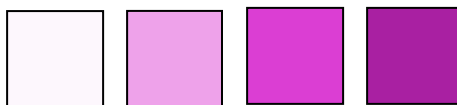


Evaluating your results:

The **nitrate standard** should have clear pink color. Your sample results may be slightly cloudy if your samples are turbid, but you will still be able to see pink color if enough nitrate is present. The nitrate standard is set at 1 part per million nitrate-N (1 ppm nitrate-N).

Compare your results to the standard by holding your samples and the standard against a white background. Determine whether your samples are less than, nearly the same, or greater than the nitrate standard color.

Here is a color chart for comparison.



0 ppm	0.4 ppm	1 ppm	2 ppm	Nitrate-N (NO ₃ -N, nitrate-nitrogen)
0 ppm	1.8 ppm	4.5 ppm	9 ppm	Nitrate
0 μM	29 μM	72 μM	145 μM	molar concentration of Nitrate (NO ₃)

Nitrate is reported in different units depending on where you live and your profession. The US EPA uses nitrate-N. Most environmental regulations use this unit. California and Europe use Nitrate values. Chemists use molar concentrations. The US EPA has set 10 ppm as the maximum value allowed for clean, safe drinking water and groundwater.