Nitrate LR Test Kit

NI-14 (1416100)

DOC326.97.00067

Test preparation

CAUTION: ⚠ Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

- Put the color disc on the center pin in the color comparator box (numbers to the front).
- Use the indoor light color disc when the light source is fluorescent light. Use the outdoor light color disc when the light source is sunlight.
- Rinse the tubes with sample before the test. Rinse the tubes with deionized water after the test.
- If the color match is between two segments, use the value that is in the middle of the two segments.
- If the color disc becomes wet internally, pull apart the flat plastic sides to open the color disc. Remove the thin inner disc. Dry all parts with a soft cloth. Assemble when fully dry.
- Undissolved reagent does not have an effect on test accuracy.
- The recommended sample temperature is 20 to 25 °C (69 to 77 °F).
- This test kit is not applicable to samples with high chloride levels, e.g. seawater.
- To record the test result as mg/L nitrate (NO_3^-), multiply the test result by 4.4.

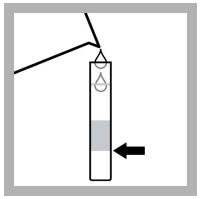
Replacement items

Description	Unit	Item no.
NitraVer© 6 Nitrate Reagent Powder Pillows, 5 mL	100/pkg	1412099
NitriVer® 3 Nitrite Reagent Powder Pillows, 5 mL	100/pkg	1407899
Color Disc, Nitrate Nitrogen, indoor light, 0–1 mg/L and 0–10 mg/L	each	9264600
Color Disc, Nitrate Nitrogen, outdoor light, 0–1 mg/L and 0–10 mg/L	each	9267900
Color comparator box	each	173200
Plastic viewing tubes, 18 mm, with caps	4/pkg	4660004
Dropper, plastic	each	608000

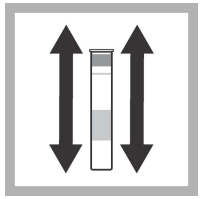
Optional items

Description	Unit	Item no.
Caps for plastic viewing tubes (4660004)	4/pkg	4660014
Water, deionized	500 mL	27249

Test procedure—Nitrate nitrogen (0–1 mg/L NO_3^-—N)

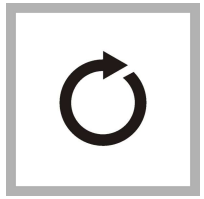


1. Fill a tube to the first line (5 mL) with sample.

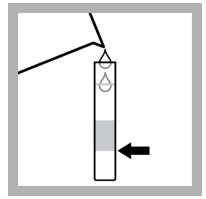


2. Put a cap on the tube. Shake vigorously.

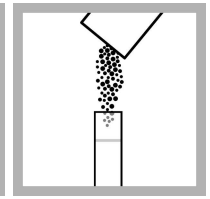
3. Empty the tube.



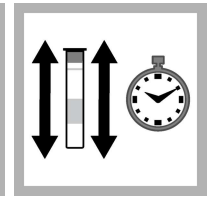
4. Do steps 1–3 again.



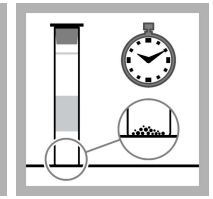
5. Fill the tube to the first line (5mL) with sample.



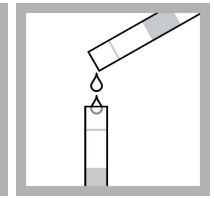
6. Add one NitraVer 6 Nitrate Reagent Powder Pillow to the tube.



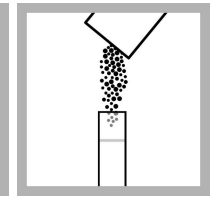
7. Put a cap on the tube. Shake for 3 minutes.



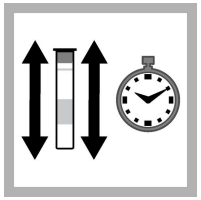
8. Wait 30 seconds. Cadmium particles fall to the bottom of the tube.



9. Pour the solution (without the particles) into a second tube.

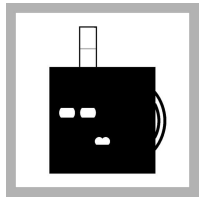


10. Add one NitriVer 3 Nitrite Reagent Powder Pillow to the second tube.

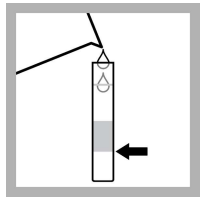


11. Put a cap on the tube. Shake for 30 seconds. A red color develops.

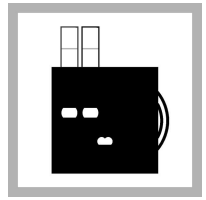
12. Wait 10 minutes. Read the result within 20 minutes.



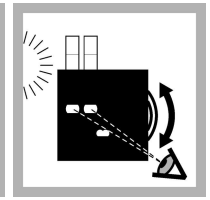
13. Put the second tube into the right opening of the color comparator box.



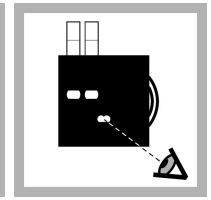
14. Rinse and fill the first tube to the first line (5 mL) with sample.



15. Put the tube into the left opening of the color comparator box.

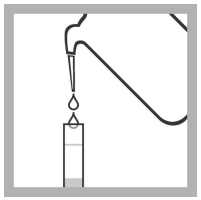


16. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.

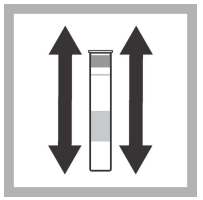


17. Read the result in mg/L in the scale window.

Test procedure—Nitrate nitrogen (0–10 mg/L NO_3^-—N)



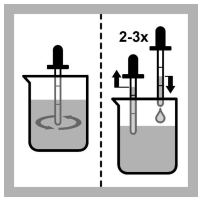
1. Fill a tube to the first line (5 mL) with deionized water.



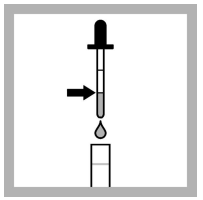
2. Put a cap on the tube. Shake vigorously.

3. Empty the tube.

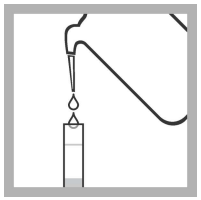
4. Do steps 1–3 again.



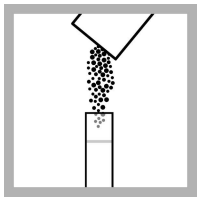
5. Fully rinse the dropper with the sample.



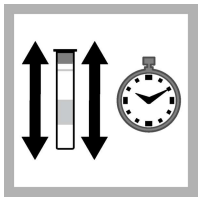
6. Add 0.5 mL of sample to the tube.



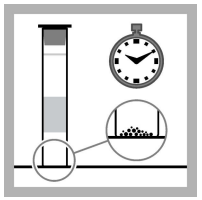
7. Fill the tube to the first mark (5 mL) with deionized water.



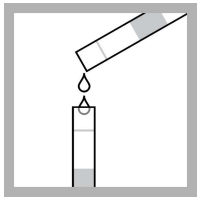
8. Add one NitraVer 6 Nitrate Reagent Powder Pillow to the tube.



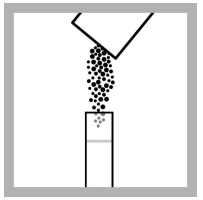
9. Put a cap on the tube. Shake for 3 minutes.



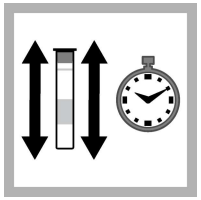
10. Wait 30 seconds. Cadmium particles fall to the bottom of the tube.



11. Pour the solution (without the particles) into a second tube.

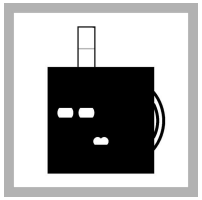


12. Add one NitriVer 3 Nitrite Reagent Powder Pillow to the second tube.

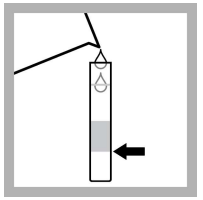


13. Put a cap on the tube. Shake for 30 seconds. A red color develops.

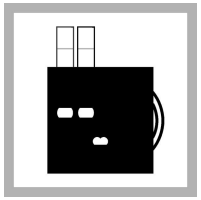
14. Wait 10 minutes. Read the result within 20 minutes.



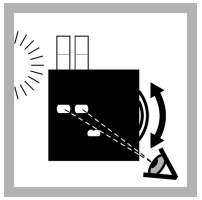
15. Put the second tube into the right opening of the color comparator box.



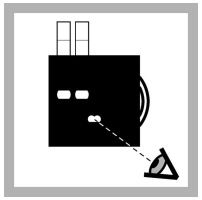
16. Rinse and fill the first tube to the first line (5 mL) with sample.



17. Put the tube into the left opening of the color comparator box.



18. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.

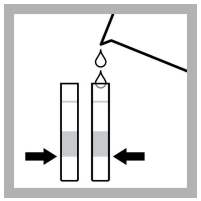


19. Read the value in the scale window.

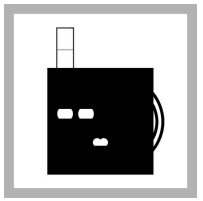
20. Multiply the value by 10 to get the result in mg/L.

Nitrite interference

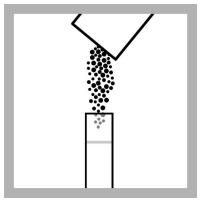
Nitrite causes an interference. To correct for nitrite in the sample, add 30-g/L bromine water by drops to the sample until the color is yellow. Add 1 drop of 30-g/L phenol solution to remove the color. Use this treated sample in the nitrate nitrogen test procedure. The result is the combination of nitrate and nitrite nitrogen. Use the steps that follow to measure the nitrite nitrogen in a new sample. Subtract the nitrite nitrogen result from the combined nitrate and nitrite nitrogen result to get the mg/L nitrate nitrogen in the sample.



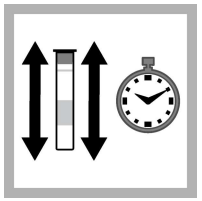
1. Fill two tubes to the first line (5 mL) with sample.



2. Put one tube into the left opening of the color comparator box.

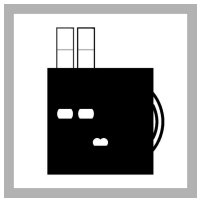


3. Add one NitriVer 3 Nitrite Reagent Powder Pillow to the second tube.

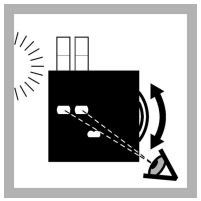


4. Put a cap on the tube. Shake for 30 seconds. A pink color develops.

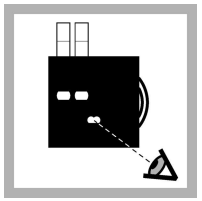
5. Wait 10 minutes. Read the result within 15 minutes.



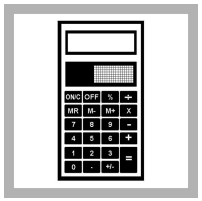
6. Put the second tube into the color comparator box.



7. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.



8. Read the value in the scale window.



9. Multiply the value by 0.53 to get the nitrite nitrogen result in mg/L.

02/2016, Edition 1