Nitrate-Nitrite Test Kit

NI-12 (1408100)

DOC326.97.00083

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 sunlight or a lamp as a light source to find the color match with the color comparator box.
- 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.
- If the sample contains more than 40 mg/L nitrate-nitrogen or more than 0.4 mg/L nitrite-nitrogen, dilute the sample as follows. Use the dropper to add 1 mL of sample to each tube. Dilute the sample to the 5-mL mark with deionized water. Use the diluted sample in the test procedure and multiply the result by 5.

Nitrate

- The reagent contains a small quantity of cadmium metal that does not dissolve. Dispose of reacted solutions according to local, state and federal regulations.
- To verify the test accuracy, use a standard solution as the sample.
- To record the test result as mg/L NO_3^-, multiply the test result by 4.4.

Nitrite

- Undissolved reagent does not have an effect on test accuracy.
- Strong oxidizing and reducing substances interfere with the test. Cupric and ferrous ions cause low results. Ferric, mercurous, silver, bismuth, antimonous, lead, auric, chloroplatinate and metavanadate ions cause a precipitate to develop.
- To record the test result as mg/L NO_2^-, multiply the test result by 3.33.
- Nitrite-nitrogen develops during the biological decomposition of organic nitrogen compounds. Nitrite is also used as a corrosion inhibitor in industrial process water and as a food preservative in the food industry. Nitrites react with oxygen to form nitrates and are not usually found in surface waters.

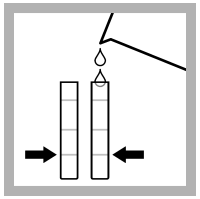
Replacement items

Description	Unit	Item no.
NitraVer® 5 Nitrate Reagent Powder Pillows, 5 mL	100/pkg	1403599
NitriVer® 3 Nitrite Reagent Powder Pillows, 5 mL	100/pkg	1407899
Color disc, nitrate nitrogen, 0–40 mg/L	each	9261400
Color disc, nitrite nitrogen, 0–0.4 mg/L	each	9262300
Color comparator box	each	173200
Dropper, glass, 0.5- and 1.0-mL marks	5/pkg	1419705
Glass viewing tubes, 18 mm	6/pkg	173006
Stopper, rubber, size 2	12/pkg	211802

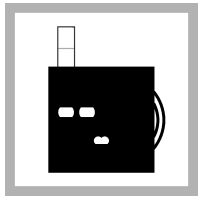
Optional items

Description	Unit	Item no.
Nitrate nitrogen standard solution, 10.0 mg/L NO_3–N	500 mL	30749
Plastic viewing tubes, 18 mm, with caps	4/pkg	4660004
Caps for plastic viewing tubes (4660004)	4/pkg	4660014
Water, deionized	500 mL	27249

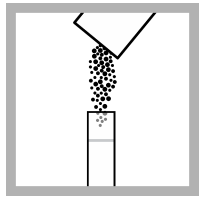
Test procedure—Nitrate-nitrogen (0–40 mg/L NO_3^-–N)



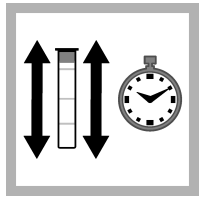
1. Fill two tubes to the first line (5 mL) with sample.



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

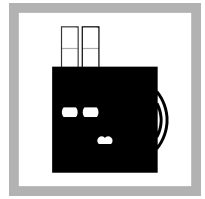


3. Add one NitraVer 5 Nitrate Reagent Powder Pillow to the second tube.

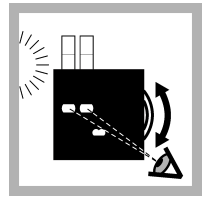


4. Put a cap on the tube. Shake vigorously for 1 minute.

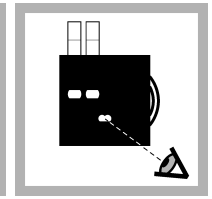
5. Wait 1 minute. An amber color develops.



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

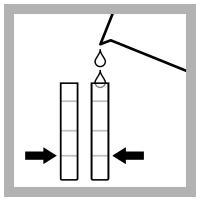


7. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.

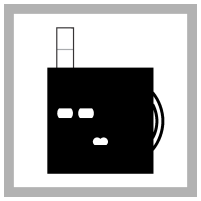


8. Read the result in mg/L in the scale window.

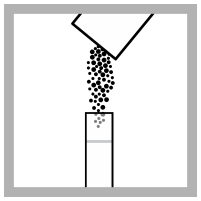
Test procedure—Nitrite-nitrogen LR (0–0.4 mg/L NO_2^-–N)



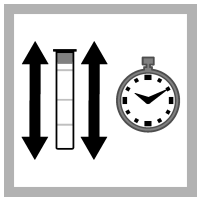
1. Fill two tubes to the first line (5 mL) with sample.



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

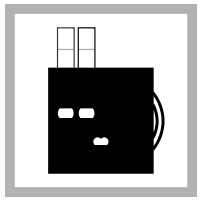


3. Add one NitriVer 3 Nitrite Reagent Powder Pillow to the second tube.

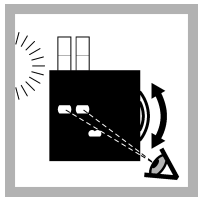


4. Put a cap on the tube. Shake for 1 minute. A pink color develops.

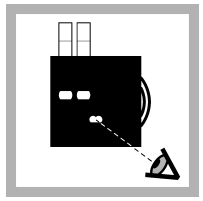
5. Wait 10 minutes. Read the result within 15 minutes.



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 result in mg/L in the scale window.