

# NITRITE-NITROGEN-LOW RANGE

## DIAZOTIZATION METHOD • CODE 3650-SC

QUANTITY	CONTENTS	CODE
2 x 60 mL	*Mixed Acid Reagent	*V-6278-H
5 g	*Color Developing Reagent	*V-6281-C
1	Spoon, 0.1 g, plastic	0699
1	Dispenser Cap	0692

\*WARNING: Reagents marked with an \* are considered hazardous substances. To view or print a Material Safety Data Sheet (MSDS) for these reagents see MSDS CD or our web site. To obtain a printed copy, contact us by e-mail, phone or fax.

Nitrite represents an intermediate state in the nitrogen cycle, usually resulting from the bacterial decomposition of compounds containing organic nitrogen. Under aerobic conditions bacteria oxidize ammonia to nitrites; and under anaerobic conditions, bacteria reduce nitrates to nitrites. Nitrites are often used as preservatives when added to certain foods.

The nitrite concentration of drinking water rarely exceeds 0.1 ppm (mg/L).

**APPLICATION:** This method is applicable for the determination of nitrite in drinking, surface and saline waters; domestic and industrial wastes.

**RANGE:** 0.00–0.80 ppm Nitrite-Nitrogen

**METHOD:** The compound formed by diazotization of sulfanilamide and nitrite is coupled with N-(1-naphthyl)-ethylenediamine to produce a reddish-purple color, which is read colorimetrically.

**SAMPLE HANDLING & PRESERVATION:** Samples should be analyzed as soon as possible. They may be stored for 24 to 48 hours at 4°C.

**INTERFERENCES:** There are few known interfering substances at concentration less than 1000 times the nitrite-nitrogen concentration; however, the presence of strong oxidants or reductants may readily affect nitrite concentrations. High alkalinity (above 600 mg/L) will give low results due to a shift in pH.

---

## PROCEDURE

- NOTE: Place Dispenser Cap (0692) on \*Mixed Acid Reagent (V-6278). Save this cap for refill reagents.
1. Press and hold **ON** button until colorimeter turns on.
  2. Press **ENTER** to start.
  3. Press **ENTER** to select TESTING MENU.
  4. Select ALL TESTS (or another sequence containing 67 Nitrite-N LR) from TESTING MENU.
  5. Scroll to and select 67 Nitrite-N LR from menu.
  6. Rinse a clean tube (0290) with sample water. Fill to the 10 mL line with sample.
  7. Insert tube into chamber, close lid and select SCAN BLANK.
  8. Remove tube from colorimeter and pour off 5 mL into a graduated cylinder or similar. Discard the remaining sample.
  9. Pour the 5 mL sample from the graduated cylinder into the colorimeter tube. Use graduated cylinder or similar to measure 5 mL of \*Mixed Acid Reagent (V-6278) and add to tube. Cap and mix.
  10. Use the 0.1 g spoon (0699) to add two measures of \*Color Developing Reagent (V-6281). Cap and mix by gently inverting for 1 minute. Wait 5 minutes for maximum color development.
  11. At the end of the 5 minute waiting period, mix, insert tube into chamber, close lid and select SCAN SAMPLE. Record result.
  12. Press **OFF** button to turn colorimeter off or press **EXIT** button to exit to a previous menu or make another menu selection.
- NOTE: To convert nitrite-nitrogen (NO<sub>2</sub>-N) results to ppm nitrite (NO<sub>2</sub>), multiply results by 3.3.