

Methods

Nitrite, an intermediate in the nitrogen cycle, is formed during the decomposition of organic matter but readily oxidizes to form nitrate. These processes occur in wastewater treatment plants, water distribution systems, and natural waters. Nitrites are useful as corrosion inhibitors, preservatives, pigments, and in manufacturing many organic preservative chemicals. A Maximum Contaminant Level of 1 mg/L has been established by the USEPA for nitrite-nitrogen in drinking water.

Azo Dye Formation Method

Reference: APHA Standard Methods, 21st. ed., Method 4500-NO₂⁻ B (2005). USEPA Methods for Chemical Analysis of Water and Wastes, Method 354.1 (1983).

Nitrite diazotizes with a primary aromatic amine in an acidic solution to produce a highly colored azo dye. The intensity of the color is directly proportional to the concentration of nitrite in the sample. Nitrate will **not** interfere. Results are expressed as ppm (mg/L) NO₂-N.

The Ceric Sulfate Titrimetric Method

Reference: Developed by CHEMetrics, Inc.

Ceric sulfate is the titrant and ferroin is the end point indicator. The method is free from glycol interference in samples that contain up to 75% glycol, making it particularly applicable to systems that contain nitrite corrosion inhibitors. Results are expressed as ppm (mg/L) NaNO₂.



Visual Kits

Range: 0-2 ppm as N
MDL: 0.25 ppm / Method: Azo Dye Formation

	Cat#
CHEMets Kit	K-7004
CHEMets Refill, 30 ampoules, Shelf-life 12 months	R-7002
Comparator 0, 0.25, 0.5, 0.75, 1.0, 1.25, 1.5, 1.75, 2.0 ppm	C-7004
Kit comes in a plastic case and contains everything needed to perform 30 tests: Refill, Comparator, 25 mL sample cup, instructions, and MSDS.	

Range: 0-55 ppm as N
MDL: 8 ppm / Method: Azo Dye Formation

	Cat#
VACUettes Kit	K-7004D
VACUettes Refill, 30 ampoules, Shelf-life 12 months	R-7002D
Comparator 0, 8, 15, 22.5, 30, 37.5, 45, 50, 55 ppm	C-7004D
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube, instructions, and MSDS.	

Range: 0-110 ppm as N
MDL: 15 ppm / Method: Azo Dye Formation

	Cat#
VACUettes Kit	K-7004A
VACUettes Refill, 30 ampoules, Shelf-life 12 months	R-7002A
Comparator 0, 15, 30, 45, 60, 75, 90, 100, 110 ppm	C-7004A
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube, instructions, and MSDS.	

Range: 0-220 ppm as N
MDL: 30 ppm / Method: Azo Dye Formation

	Cat#
VACUettes Kit	K-7004B
VACUettes Refill, 30 ampoules, Shelf-life 12 months	R-7002B
Comparator 0, 30, 60, 90, 120, 145, 170, 195, 220 ppm	C-7004B
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube, instructions, and MSDS.	

 Instrumental Kits

V-2000 Multi-Analyte Photometer
(See page 12 for instrumental features)

Range: 0.080-0.800 ppm as N
Method: Azo Dye Formation

Vacu-vials Kit, Shelf-life 12 months **Cat# K-7003**

Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules, 25 mL sample cup, ampoule blank, instructions, calibration table, and MSDS.

Vacu-vials Kits require the use of the V-2000 Photometer or a spectrophotometer capable of accepting a 13 mm diameter round cell. Instrument sold separately.

Kit Components common to Nitrite

Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Micro Test Tube Pack (10 ea)	A-0015
Dilutor Snapper Cup Pack (6 ea)	A-0018
Ampoule Blank Pack (5 ea)	A-0023
Titrettor Pack (1 ea)	A-0053

Instructions are posted on our website.

If no shelf-life is listed for a product, then the shelf-life is at least 2 years.



Range: 0-2200 ppm as N
MDL: 300 ppm / Method: Azo Dye Formation

VACUettes Kit **Cat# K-7004C**

VACUettes Refill, 30 ampoules, Shelf-life 12 months **R-7002C**

Comparator
0, 300, 600, 900, 1200, 1450, 1700, 1950, 2200 ppm **C-7004C**

Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube, instructions, and MSDS.

Range: 250-2500 ppm as NaNO₂
MDL: 250 ppm / Method: Ceric Sulfate Titrant with Ferroin Indicator

Titrets Kit **Cat# K-7025**

Increments:
250, 275, 300, 325, 350, 375, 400, 450, 500, 625, 750, 875, 1000, 1250, 1750, 2500 ppm

Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules with valve assemblies, titrettor, 25 mL sample cup, instructions, and MSDS.

Range: 500-5000 ppm as NaNO₂
MDL: 500 ppm / Method: Ceric Sulfate Titrant with Ferroin Indicator

Titrets Kit **Cat# K-7050**

Increments:
500, 550, 600, 650, 700, 750, 800, 900, 1000, 1250, 1500, 1750, 2000, 2500, 3500, 5000 ppm

Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules with valve assemblies, titrettor, 25 mL sample cup, instructions, and MSDS.

