

Range: 0-120 & 120-1200 ppm MDL: 20 ppm / Method: Direct Nesslerization	
<b>VACUettes Kit</b>	<b>Cat#</b> <b>*K-1510B</b>
VACUettes Refill, 30 ampoules, Shelf life 5 months	*R-1501B <sup>2</sup>
Low Range Comparator 0, 20, 30, 40, 60, 80, 100, 120 ppm	C-1501B
High Range Comparator 120, 240, 360, 480, 600, 700, 800, 1000, 1200 ppm	C-1510B
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Low and High Range Comparators, dilutor snapper cup, micro test tube and instructions.	

Range 0-1000 & 1000-10,000 ppm MDL: 100 ppm / Method: Direct Nesslerization	
<b>VACUettes Kit</b>	<b>Cat#</b> <b>*K-1510C</b>
VACUettes Refill, 30 ampoules, Shelf life 5 months	*R-1501C <sup>2</sup>
Low Range Comparator 0, 100, 200, 300, 400, 600, 800, 1000 ppm	C-1501C
High Range Comparator 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 10,000 ppm	C-1510C
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Low and High Range Comparators, dilutor snapper cup, micro test tube and instructions.	

Range: 0-125 & 0-2500 ppm MDL: 8 ppm / Method: Hydroxybenzyl Alcohol (HBA)	
<b>VACUettes Kit</b>	<b>Cat#</b> <b>K-1420D</b>
VACUettes Refill, 30 ampoules	R-1402D
Activator Solution Pack, Shelf life 8 months	A-1410 <sup>3</sup>
A-1404 Stabilizer Solution, two 10 mL bottles	
A-1405 Catalyzer Solution, two 10 mL bottles	
A-1406 Activator Solution, two 10 mL bottles	
Dual Range Comparator 0, 8, 15, 25, 35, 50, 70, 100, 125 ppm	C-1404D
0, 160, 300, 500, 700, 1000, 1400, 2000, 2500 ppm	
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, Stabilizer Solution, Catalyzer Solution, Activator Solution, 25 mL sample cup, 3 mL syringe, dilutor snapper cup, sample cup top, micro test tube and instructions.	

Range: 0-500 & 0-10,000 ppm MDL: 30 ppm / Method: Hydroxybenzyl Alcohol (HBA)	
<b>VACUettes Kit</b>	<b>Cat#</b> <b>K-1420B</b>
VACUettes Refill, 30 ampoules	R-1402B
Activator Solution Pack, Shelf life 8 months	A-1410 <sup>3</sup>
A-1404 Stabilizer Solution, two 10 mL bottles	
A-1405 Catalyzer Solution, two 10 mL bottles	
A-1406 Activator Solution, two 10 mL bottles	
Dual Range Comparator 0, 30, 60, 100, 150, 225, 300, 400, 500 ppm	C-1404B
0, 600, 1200, 2000, 3000, 4500, 6000, 8000, 10,000 ppm	
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, Stabilizer Solution, Catalyzer Solution, Activator Solution, 25 mL sample cup, 3 mL syringe, dilutor snapper cup, sample cup top, micro test tube and instructions.	

## Instrumental Kits

Range: 0-7.00 ppm Method: Direct Nesslerization
<b>Multi-Analyte Photometers</b> <b>V-2000 / V-3000</b> (See page 14 for instrumental features)

Range: 0-7.00 ppm Method: Direct Nesslerization	
<b>Vacu-vials Kit</b> , Shelf life 2 months	<b>Cat#</b> <b>*K-1503<sup>2</sup></b>
Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules, Stabilizer Solution, 25 mL sample cup, ampoule blank, and instructions.	

Range: 0-10.00 ppm & 0-150 ppm Method: Direct Nesslerization (extended shelf life)	
<b>Vacu-vials Kit</b> , Shelf life 12 months	<b>Cat#</b> <b>*K-1513</b>
Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules, Stabilizer Solution, 25 mL sample cup, 3-mL syringe, ampoule blank and instructions. Seawater analysis requires A-1503 Accessory Solution Pack (sold separately).	

Range: 0-14.0 ppm Method: Direct Nesslerization	
<b>Vacu-vials Kit</b> , Shelf life 2 months	<b>Cat#</b> <b>*K-1523<sup>2</sup></b>
Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules, Stabilizer Solution, 25 mL sample cup, ampoule blank, and instructions.	

Range: 0-3.00 & 0-60.0 ppm Method: Hydroxybenzyl Alcohol (HBA)	
<b>Vacu-vials Kit</b> , Shelf life 8 months	<b>Cat#</b> <b>K-1413</b>
Kit comes in a cardboard box and contains everything needed to perform 30 tests (except distilled water): thirty ampoules, Stabilizer Solution, Catalyzer Solution, Activator Solution, 25 mL sample cup, 3 mL syringe, ampoule blank and instructions.	

**Vacu-vials Kits require the use of a CHEMetrics Direct-Readout Photometer (photometers sold separately) or a spectrophotometer capable of accepting a 13 mm diameter round cell. See page 14 for details.**

**⚠ WARNING!** The products employing the Direct Nesslerization method can expose you to chemicals including mercury, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Components and Accessories	
Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Sample Cup Top Pack (6 ea)	A-0014
Micro Test Tube Pack (10 ea)	A-0015
Dilutor Snapper Cup Pack (6 ea)	A-0018
Ampoule Blank Pack (5 ea)	A-0023
** Sample Zeroing Accessory Pack	A-0025
Syringe Pack, 1.0 mL (6 ea)	A-0027
Syringe Pack, 3.0 mL (6 ea)	A-0063
** Sample Zeroing Accessory Pack	A-0503
** Sample Zeroing Accessory Pack	A-0504
Seawater Accessory Pack (4 bottles)	A-1503

## Bromine

### Method

Bromine, a less volatile compound than chlorine, is used as a sanitizing agent in drinking water systems, swimming pools, and spas.

### The DPD Method

**References: USEPA Methods for Chemical Analysis of Water and Wastes, Method 330.5 (1983). APHA Standard Methods, 23<sup>rd</sup> ed., Method 4500-Cl G -2000.**

The bromine test method employs the DPD chemistry. Potassium iodide is added to the sample before analysis. Bromine reacts with the iodide to liberate iodine. The iodine reacts with DPD (N, N-diethyl-p-phenylenediamine) to form a pink color. Results are expressed in ppm (mg/L) bromine as Br<sub>2</sub>.



## Visual Kit

Range: 0-2.2 & 0-11 ppm MDL: 0.125 ppm / Method: DPD	
<b>CHEMetrics Kit</b>	<b>Cat#</b> <b>K-1605</b>
CHEMetrics Refill, 30 ampoules	R-1605
Activator Solution Pack, six 10 mL bottles	A-1600 <sup>1</sup>
Low Range Comparator 0, 0.25, 0.5, 0.7, 0.9, 1.4, 1.8, 2.2 ppm	C-1601
High Range Comparator 0, 2.2, 3.4, 4.5, 5.6, 6.8, 7.9, 9, 11 ppm	C-1605
Kit comes in a plastic case and contains everything needed to perform 30 tests: Refill, Low and High Range Comparators, Activator Solution, 25 mL sample cup and instructions.	

Components and Accessories	
Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Ampoule Blank Pack (5 ea)	A-0023

<sup>1</sup> The accessory pack supplies enough solution to perform at least 200 tests.

Instructions and SDSs are posted on our website.

If no shelf life is listed for a product, then the shelf life is at least 1 year.

\*Contains mercury. Dispose according to local, state or federal laws.

\*\* For use when testing colored or turbid samples. See page 13 for details.

<sup>1</sup> The accessory pack supplies enough solution to perform at least 200 tests.

<sup>2</sup> Shelf life is based on storage at room temperature and in the dark.

This shelf life can be extended by 18 months if the ampoules are stored in the refrigerator when not in use.

<sup>3</sup> The A-1410 Accessory Solution Pack supplies enough Ammonia Activator, Catalyzer, and Stabilizer Solutions to perform approximately 80 tests. An accessory solution contained in this pack has a shelf life of 8 months. (Test kits contain one bottle of each solution.)

Instructions and SDSs are posted on our website.

If no shelf life is listed for a product, then the shelf life is at least 1 year.