



Visual Kits

Methods

Because of its strong oxidizing properties, chlorine is an excellent biocide used to treat potable waters, municipal wastes, and swimming pools. When used to treat potable water, chlorine helps alleviate the adverse effects of iron, manganese, ammonia, and sulfide. The Maximum Residual Disinfectant Level for chlorine is 4 mg/L in drinking water.

The DPD Method

References: USEPA Methods for Chemical Analysis of Water and Wastes, Method 330.5 (1983).
 APHA Standard Methods, 21st ed., Method 4500-Cl G (2005).



In the USEPA-approved DPD methodology, free chlorine reacts with DPD to form a pink product. When ammonia or amines are present, some

of the chlorine may exist as combined chlorine. Combined chlorine will not interfere with the free chlorine results, provided the readings are taken at one minute. To determine total chlorine (the sum of free and combined), use the A-2500 Activator Solution (potassium iodide) supplied in the kit. Results are expressed as ppm (mg/L) Cl₂.

The DDPD™ Method

Reference: Developed by CHEMetrics, Inc.

The DDPD™ method is derived from the DPD method. Test kits that employ this chemistry are well suited for use where biocides and chromate corrosion inhibitors are used simultaneously. DDPD reacts with free chlorine to form a purple product. When ammonia or amines are present in the sample, some of the chlorine may exist as *combined chlorine*. To determine total chlorine (the sum of free and combined), use the A-2500 Activator Solution (potassium iodide) that is supplied in the kit. Results are expressed as ppm (mg/L) Cl₂.

CHEMetrics' DDPD method is also applicable to the direct determination of hypochlorite concentrations in various cleaning preparations and disinfectants prior to their dilution. The DDPD compound reacts with hypochlorite ions to form a purple color. Results are expressed as percent (%) NaOCl.

Range: 0-0.20 ppm MDL: 0.04 ppm / Method: DDPD	
Chlorine (free & total) ULR CHEMets Kit	Cat# K-2511
ULR CHEMets Refill, 30 ampoules	R-2511
Activator Solution Pack, six 10 mL bottles	A-2500 ¹
Neutralizer Solution Pack, six 20 mL bottles	A-2501 ¹
Comparator, Shelf-life 12 months 0, 0.04, 0.06, 0.08, 0.10, 0.12, 0.16, 0.20 ppm	C-2511
Kit comes in a cardboard box and contains everything needed to perform 30 tests: Refill, Comparator, Activator Solution, Neutralizer Solution, 25 mL sample cup, instructions, and MSDS.	

Range: 0-1 & 1-5 ppm MDL: 0.05 ppm / Method: DPD	
Chlorine (free & total) CHEMets Kit	Cat# K-2504
CHEMets Refill, 30 ampoules	R-2500
Activator Solution Pack, six 10 mL bottles	A-2500 ¹
Low Range Comparator 0, 0.1, 0.2, 0.3, 0.4, 0.6, 0.8, 1.0 ppm	C-2504
High Range Comparator 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0 ppm	C-2506
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, instructions, and MSDS.	

Range: 0-30 & 30-150 ppm MDL: 5 ppm / Method: DDPD	
Chlorine (free & total) VACUettes Kit	Cat# K-2505D
VACUettes Refill, 30 ampoules	R-2505D
Activator Solution Pack, six 10 mL bottles	A-2500 ¹
Neutralizer Solution Pack, six 20 mL bottles	A-2501 ¹
Low Range Comparator, Shelf-life 12 months 0, 5, 7.5, 10, 15, 20, 25, 30 ppm	C-2501D
High Range Comparator, Shelf-life 12 months 30, 45, 60, 75, 87.5, 100, 112.5, 125, 150 ppm	C-2505D
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Low and High Range Comparators, Activator Solution, Neutralizer Solution, dilutor snapper cup, sample cup top, micro test tube, instructions, and MSDS.	

Range: 0-60 & 60-300 ppm MDL: 10 ppm / Method: DDPD	
Chlorine (free & total) VACUettes Kit	Cat# K-2505A
VACUettes Refill, 30 ampoules	R-2505A
Activator Solution Pack, six 10 mL bottles	A-2500 ¹
Neutralizer Solution Pack, six 20 mL bottles	A-2501 ¹
Low Range Comparator, Shelf-life 12 months 0, 10, 15, 20, 30, 40, 50, 60 ppm	C-2501A
High Range Comparator, Shelf-life 12 months 60, 90, 120, 150, 175, 200, 225, 250, 300 ppm	C-2505A
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Low and High Range Comparators, Activator Solution, Neutralizer Solution, dilutor snapper cup, sample cup top, micro test tube, instructions, and MSDS.	

*Approved for drinking and wastewater using CHEMetrics instrumental DPD Vacu-vials products. Please contact us for a copy of the USEPA approval letter.



Instrumental Kits

Range: 0-120 & 120-600 ppm
MDL: 20 ppm / Method: DDPD

	Cat#
Chlorine (free & total) VACUettes Kit	K-2505B
VACUettes Refill, 30 ampoules	R-2505B
Activator Solution Pack, six 10 mL bottles	A-2500 ¹
Neutralizer Solution Pack, six 20 mL bottles	A-2501 ¹
Low Range Comparator, Shelf-life 12 months 0, 20, 30, 40, 60, 80, 100, 120 ppm	C-2501B
High Range Comparator, Shelf-life 12 months 120, 180, 240, 300, 350, 400, 450, 500, 600 ppm	C-2505B

Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Low and High Range Comparators, Activator Solution, Neutralizer Solution, dilutor snapper cup, sample cup top, micro test tube, instructions, and MSDS.

Range: 0-1000 & 1000-5000 ppm
MDL: 100 ppm / Method: DDPD

	Cat#
Chlorine (free & total) VACUettes Kit	K-2505C
VACUettes Refill, 30 ampoules	R-2505C
Activator Solution Pack, six 10 mL bottles	A-2500 ¹
Neutralizer Solution Pack, six 20 mL bottles	A-2501 ¹
Low Range Comparator, Shelf-life 12 months 0, 100, 200, 300, 400, 600, 800, 1000 ppm	C-2501C
High Range Comparator, Shelf-life 12 months 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000 ppm	C-2505C

Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Low and High Range Comparators, Activator Solution, Neutralizer Solution, dilutor snapper cup, sample cup top, micro test tube, instructions, and MSDS.

Range: 0.4-1.9% as NaOCl
MDL: 0.4% / Method: DDPD

	Cat#
Chlorine (hypochlorite) VACUettes Kit	K-5806
VACUettes Refill, 30 ampoules	R-5806
Comparator, Shelf-life 12 months 0.4, 0.6, 0.8, 1.0, 1.1, 1.3, 1.4, 1.6, 1.9%	C-5806

Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, 25 mL sample cup, dilutor snapper cup, 1.0 mL syringe, micro test tube, instructions, and MSDS.

Range: 2.5-13% as NaOCl
MDL: 2.5% / Method: DDPD

	Cat#
Chlorine (hypochlorite) VACUettes Kit	K-5814
VACUettes Refill, 30 ampoules	R-5814
Comparator, Shelf-life 12 months 2.5, 4.0, 5.0, 6.5, 8.0, 9.0, 10.5, 12.0, 13.0%	C-5814

Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, 25 mL sample cup, dilutor snapper cup, 1.0 mL syringe, micro test tube, instructions, and MSDS.

V-2000 Multi-Analyte Photometer

(See page 14 for instrumental features)

Range: 0.40-5.00 ppm
Method: DPD

	Cat#
Chlorine (free) Vacu-vials Kit (USEPA Approved)	K-2523

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

Range: 0.40-5.00 ppm
Method: DPD

	Cat#
Chlorine (free & total) Vacu-vials Kit (USEPA Approved)	K-2513

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

SAM Single-Analyte Photometer

(See page 17 for instrumental features)

Range: 0.40-5.00 ppm
Method: DPD

	Cat#
Chlorine (free & total) SAM Kit	I-2001

Vacu-vials Kit, 30 ampoules, Activator Solution, 25 mL sample cup, ampoule blank, instructions, and MSDS. K-2513

SAM Kit comes in a plastic case and contains everything needed to perform 30 tests: Vacu-vials Kit, SAM Photometer, light shield, 4 AAA batteries, screwdriver, and instructions.

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.

¹The accessory pack supplies enough solution to perform at least 200 tests. The Activator Solution, A-2500, is used to determine Total Chlorine.

Kit Components common to Chlorine

Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Sample Cup Top Pack for 25 mL cup (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
Syringe Pack, 1.0 mL (6 ea)	A-0027

Instructions and MSDS(s) are posted on our website.

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