

# Taylor's Chlorine Test Kits

## INTRODUCTION

Chlorine is used as a sanitizer, oxidizer, and bleaching agent in many commercial, industrial, and recreational applications. Colorimetric methods employ either N,N-diethyl-p-phenylenediamine (**DPD**) for testing free and total chlorine or orthotolidine (**OT**) for determining total chlorine only. Titrations use either the ferrous ammonium sulfate (**FAS-DPD**) method or the iodometric method for testing free and combined chlorine. The FAS-DPD method is popular with people who have difficulty matching shades of red, as its endpoint is signaled by a distinct change from a color to colorless.

Combined chlorine (CC) can be determined by subtracting the free chlorine (FC) reading from the total chlorine (TC) reading:  $TC - FC = CC$ .

We also offer **chlorine tests in combination kits**, such as chlorine and pH. Please call us for more information.

*Note: These tests are limited to on-site analysis. High chlorine, usually over 10 ppm, may partially or totally bleach out DPD indicator and may turn OT indicator dark brown; if this happens, the sample should be diluted and the test result multiplied by the appropriate factor. Bromine, iodine, and oxidized manganese will register as chlorine.*

## CHLORINE KITS

### K-1141

Slide comparator (using **OT**);  
0.2–12 ppm total chlorine ( $Cl_2$ )

### K-1151

Slide comparator (using **OT**);  
5–250 ppm total chlorine ( $Cl_2$ )

### K-1201

Slide comparator (using **OT**);  
0–1.0 ppm total chlorine ( $Cl_2$ )

### K-1203

Slide comparator (using **OT**);  
0.1–4.0 ppm total chlorine ( $Cl_2$ )



The K-1259-1 employs liquid-to-liquid color comparison for more accurate readings.

### K-1205

Slide comparator (using **OT**);  
0.2–3.0 ppm total chlorine ( $Cl_2$ )

### K-1231

Midget comparator (using **OT**);  
0–1.0 ppm total chlorine ( $Cl_2$ )

### K-1234

Midget comparator (using **DPD tablet**);  
0.2–3.0 ppm free and total chlorine ( $Cl_2$ )

### K-1256

Slide comparator (using **OT**);  
0–50 ppm total chlorine ( $Cl_2$ )

### K-1259-1

Slide comparator (using **DPD**);  
0–3.0 ppm free and total chlorine ( $Cl_2$ )

### K-1259-2

Slide comparator (using **DPD**);  
0–1.0 ppm free and total chlorine ( $Cl_2$ )

### K-1289

Slide comparator (using **DPD**);  
1.0–10 ppm free and total chlorine ( $Cl_2$ )

### K-1297

Midget comparator (using **OT**);  
0–2.0 ppm total chlorine ( $Cl_2$ )

### K-1401

Midget comparator (using **OT**);  
5–250 ppm total chlorine ( $Cl_2$ )

### K-1515-C

Drop test (using **FAS-DPD** with  
potassium iodide solution);  
1 drop = 0.2 or 0.5 ppm free and  
combined chlorine ( $Cl_2$ )

### K-1516

Drop test (using **FAS-DPD** with  
potassium iodide crystals);  
1 drop = 0.2 or 0.5 ppm free and  
combined chlorine ( $Cl_2$ )

### K-1579

Drop test (**iodometric**);  
1 drop = 10 or 100 ppm/0.05 or 0.5%  
available chlorine ( $Cl_2$ ) (**bleach test**)

### K-1580

Drop test (**iodometric**);  
1 drop = 1 or 10 ppm total chlorine ( $Cl_2$ )

### K-1768

Midget comparator (using **DPD**);  
0.2–3.0 ppm free and total chlorine ( $Cl_2$ )

### K-1768-2

Midget comparator (using **DPD**);  
1.5–10 ppm free and total chlorine ( $Cl_2$ )

### K-3209

Long Viewpath comparator (using **OT**);  
0–1.0 ppm total chlorine ( $Cl_2$ )

### K-9022

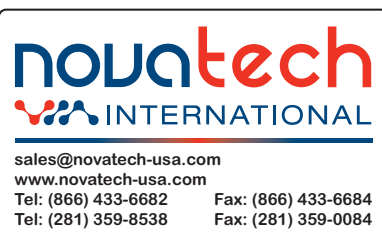
Drop test (**iodometric**);  
1 drop = 1 ppm total chlorine ( $Cl_2$ )

### K-9047

Midget comparator (using **DPD**);  
0.1–2.0 ppm free and total chlorine ( $Cl_2$ )

### K-0445

Buret titration reagent pack (using  
**FAS-DPD** with potassium iodide  
crystals);  
1 mL = 0.1 mg free and combined  
chlorine ( $Cl_2$ )



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## USER BENEFITS

- Slide™ and Long Viewpath™ comparators (using nine liquid-color standards molded in impact-resistant plastic) are **designed to compensate for color and turbidity**. Midget™ comparators (using eight liquid-color standards) are the **economical alternative when color and turbidity are not present**.
- Titrations do not require the ability to match colors, only the ability to see the **permanent color change** at the endpoint of the reaction.
- Test kits **come complete** with all necessary reagents and equipment; reagent packs contain an instruction and reagents **only**.

- **Waterproof instructions** are printed on plastic-impregnated paper that resists fading and tearing.
- **Color coding** of reagent caps to instructions helps prevent mishaps.
- **Picture guides** to color transitions in the test reassure new users.
- Custom-molded, durable plastic cases provide **safe storage** for all tests.
- **Proven chemistries** are based on *Standard Methods for the Examination of Water and Wastewater*, APHA, Washington, DC, and/or *American Society for Testing and Materials*, ASTM, Philadelphia, PA. Some methods use proprietary chemistry developed by Taylor Technologies.

## ALSO AVAILABLE

- Three combination kits that include a chlorine test which have been specifically configured for commercial laundries (K-1615, K-1616, K-9017).
- Kits specifically for testing chlorine in pools and spas.
- Tests for **other sanitizers/oxidizers** such as bromine, chlorine dioxide, hydrogen peroxide, iodine, ozone, biguanide, and potassium monoper-sulfate.
- Individual replacement reagents.
- More than 500 single-parameter and multiparameter kits covering a wide range of water-testing requirements.
- Testing supplies and kit replacement parts (e.g., burets, flasks, test tubes, and test cells).
- **Video demonstrations** for new users posted on our website.
- Toll-free technical assistance at **800-TEST KIT**.

## REPRESENTATIVE TEST PROCEDURE

Reproduced from K-1515-C instruction:

**DROP TEST**  
**FAS-DPD CHLORINE (1 drop = 0.2 or 0.5 ppm)**

Instr. #5216

**COMPONENTS:**

1 x 5216	Instruction
1 x 9198Y	Sample Tube, Graduated, 25 mL, plastic w/cap and yellow dot
1 x R-0003-C	DPD Reagent #3, 2 oz, DB
1 x R-0870-I	DPD Powder, 10 g
2 x R-0871-C	FAS-DPD Titrating Reagent (chlorine), 2 oz, DB

**TO ORDER REPLACEMENT PARTS AND REAGENTS CALL TOLL-FREE 800-TEST KIT (800-837-8548).**

**PROCEDURE:**  
**CAREFULLY READ AND FOLLOW PRECAUTIONS ON REAGENT LABELS. KEEP REAGENTS AWAY FROM CHILDREN.**

**Chlorine Tests (Free & Combined)**

1. Rinse and fill sample tube (#9198Y) to desired mark with water to be tested (Fig. 1).

NOTE: For 1 drop = 0.2 ppm, use 25 mL sample.  
For 1 drop = 0.5 ppm, use 10 mL sample.

2. Add 2 dippers R-0870 DPD Powder. Swirl until dissolved. Sample will turn pink (Fig. 2) if free chlorine is present.

NOTE: If pink color disappears, add R-0870 DPD Powder until color turns pink.

3. Add R-0871 FAS-DPD Titrating Reagent (chlorine) dropwise, swirling and counting after each drop, until color changes from pink to colorless. Always hold bottle in vertical position.
4. Multiply drops in Step 3 by drop equivalence (Step 1). Record as parts per million (ppm) free chlorine (FC).
5. Add 5 drops R-0003 DPD Reagent #3. Swirl to mix. Sample will turn pink if combined chlorine is present.
6. Add R-0871 FAS-DPD Titrating Reagent (chlorine) dropwise, swirling and counting after each drop, until color changes from pink to colorless. Always hold bottle in vertical position.
7. Multiply drops in Step 6 by drop equivalence (Step 1). Record as ppm combined chlorine (CC).




Fig. 1





Fig. 2



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