

# Hydrate Alkalinity Titrets® Kit

K-4710: 100 - 1000 ppm

## Test Procedure

1. Fill the sample cup to the 20 mL mark with the sample to be tested (fig. 1).
2. Add 8 drops of A-4701 Neutralizer Solution and 1 drop of A-4700 Indicator Solution to the sample (fig. 2). Stir to mix the contents of the cup.

**NOTE:** If the sample did not turn pink, hydrate alkalinity is 0 ppm. There is no need to continue.

3. For samples that did turn pink, wait 2 - 5 minutes or until the precipitate settles out.

**NOTE:** A precipitate is formed only if there is carbonate present in the sample.

4. Snap the tip of the ampoule at the black snap ring (fig. 3).

**NOTE:** When the tip is snapped, the flexible tubing will remain in place on the neck of the ampoule.

5. Lift the control bar and insert the Titret assembly into the Titrettor (fig. 4).

**NOTE:** The rigid sample pipe will extend approximately 1.5 inches beyond the body of the Titrettor.

6. Hold the Titrettor with the sample pipe in the sample. Press the control bar firmly, but briefly, to pull in a small amount of sample (fig. 5).

**NOTE:** NEVER press the control bar unless the sample pipe is in the sample.

7. Press the control bar again to draw another small amount of sample into the ampoule (fig. 5).

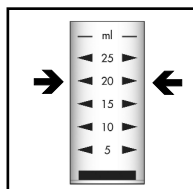


Figure 1

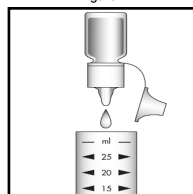


Figure 2

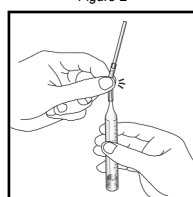


Figure 3

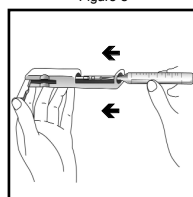


Figure 4

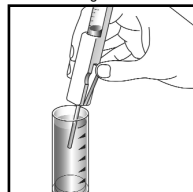


Figure 5

8. Rock the entire assembly to mix the contents of the ampoule. Watch for a color change from **COLORLESS** to **PALE PINK**.

9. Repeat steps 7 and 8 until a permanent color change occurs.

10. When the color of the liquid in the ampoule changes to **PALE PINK**, remove the ampoule from the Titrettor. Hold the ampoule, **tip pointed upward**, and read the scale opposite the liquid level (fig. 6). Results are expressed in ppm (mg/Liter) sodium hydroxide (NaOH).

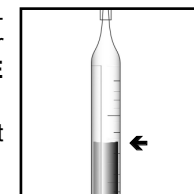


Figure 6

## Interpretation of Test Results

If the contents of the ampoule turn **pink** in Step # 6, the hydrate alkalinity concentration in the sample is above the test range. If the ampoule fills completely and the contents do not turn **pink**, the hydrate alkalinity concentration is below the test range.

## Test Method

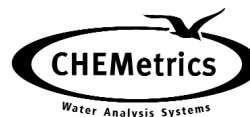
The Hydrate Alkalinity Titrets®<sup>1</sup> test method employs a titrimetric chemistry using an acid titrant.<sup>2</sup> The endpoint indicator is phenolphthalein. Barium Chloride is added to the sample to prevent interference from carbonate and bicarbonate.

1. Titrets is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 4,332,769
2. APHA Standard Methods, 21<sup>st</sup> ed., Method 2320B (2005)

## Safety Information

Read MSDS (available at [www.chemetrics.com](http://www.chemetrics.com)) before performing this test procedure. Wear safety glasses and protective gloves.

Visit [www.chemetrics.com](http://www.chemetrics.com) to view product demonstration videos.  
Always follow the test procedure above to perform a test.



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