Dissolved CO_2 ezSample™ Field Titrator (EZ-2341)

10–100 ppm (mg/L) CO_2

Safety Information

Read the MSDS before performing this test procedure. Wear safety glasses and disposable gloves.

Sample Pretreatment

If the sample is turbid, it must be filtered prior to performing this test procedure.

Test Procedure

1. Fill the sample cup to the 20 mL mark with the sample (Figure 1).

2. Add 2 drops of A-1900 Activator Solution (Figure 2). Stir briefly to mix the contents of the sample cup.

   NOTE: If the sample turns pink, carbon dioxide is 0 ppm. There is no need to continue.

3. Gently snap the tip of the ezSample Snap Vial (ampoule) at the black snap ring (Figure 3).

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

4. Lift the control bar and insert the ampoule assembly into the titrator (Figure 4).

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

5. Hold the titrator with the sample pipe in the sample and press the control bar firmly, but briefly, to pull in a small amount of sample (Figure 5). The contents will turn a PINK color.

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

6. With the sample pipe in the sample, press the control bar again briefly to allow another small amount of sample to be drawn into the ampoule.

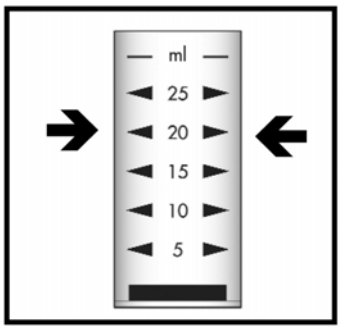

Figure 1

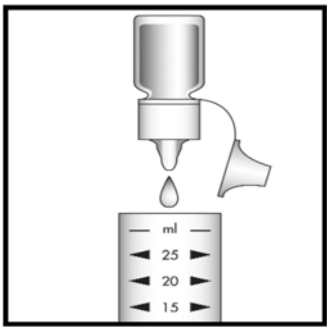

Figure 2

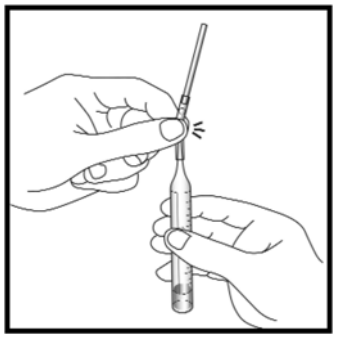
Figure 3

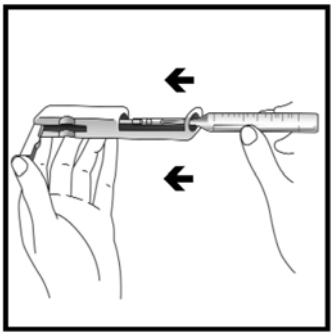
Figure 4

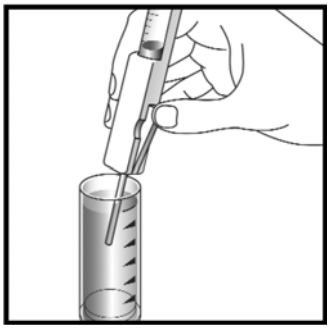
Figure 5

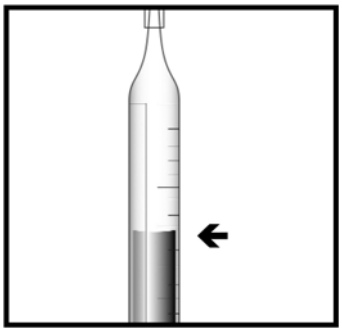
Figure 6

7. After each addition, rock the entire assembly to mix the contents of the ampoule. Watch for a color change from **PINK to COLORLESS.**

8. Repeat steps 6 and 7 until a permanent color change occurs.

9. When the color of the liquid in the ampoule changes to **COLORLESS**, remove the ampoule from the Titrator. Hold the ampoule in a vertical position and read the scale opposite the liquid level (Figure 6).

Test Method Description

The dissolved CO_2 ezSample test method employs the a caustic titrant with pH indicator method.[1,2] Results are expressed in ppm (mg/L) carbon dioxide as CO_2.

Procedure in the event of sulfide concentrations > 0.4 ppm:

Sulfide will not interfere up to 0.4 ppm. However if the sulfide concentration is > 0.4 ppm, the following formula is used to calculate the volume of **A-1905 Neutralizer Solution** that should be added to 20 mL of the sample prior to performing the Test Procedure:

mL of A-1905 Solution = ppm sulfide ÷ 10.

NOTE: Because the ampoules have nonlinear scales, the accuracy of the ezSample field titrator kit varies with the analyte concentration. At the low end of the test range, the accuracy is ± 5%. At the high end of the range, the accuracy falls to ± 20%.

References

1. Method 4500—CO_2 C. APHA Standard Methods, 20th ed., p. 4-31, (1998).
2 Total and Dissolved Carbon Dioxide In Water, Test Method E. ASTM D. 513-82.