

pH 6.5-8.5 (with Acid & Base Demand)

Range(s): 6.50-8.50



Procedure

Note: When testing multiple samples simultaneously, a separate sample cell with an unreacted sample of the water tested must be used to zero the colorimeter. Please note that varying the test procedure from the original can affect the precision of the test.

1. Turn on the Colorimeter.
2. Select a test menu (ALL TESTS, RECENT TESTS, or FAVORITES) containing pH 6.5-8.5 using ◀▶.
3. Select pH 6.5-8.5 using ▲▼; then press ENTER ●.
4. Rinse and fill 25 mm sample cell to 10 mL mark with sample; then cap.
5. Insert sample cell into sample cell compartment. Align marks per User's Manual.
6. Select ZERO using ◀▶; then press ENTER ●. Zero will be displayed.
7. Remove sample cell from sample cell compartment; then remove cap.
8. Add 0.5 mL pH 6.5-8.5 - Reagent A; then cap and swirl to mix thoroughly.

Acid Demand Test

1. Use treated sample from pH Test.
2. Add 1 drop pH 6.5-8.5 - Reagent B to sample cell. Cap and swirl to mix.
3. Insert sample cell into sample cell compartment. Align marks.
4. Press ENTER ●. The result will be displayed.
5. Continue adding Reagent B dropwise until desired pH is reached.
6. Record number of drops dispensed and refer to Acid Demand Treatment Table for correct amount of muriatic acid to add to lower pH.

Base Demand Test

1. Use treated sample from pH Test.
2. Add 1 drop pH 6.5-8.5 - Reagent C to sample cell. Cap and swirl to mix.
3. Insert sample cell into sample cell compartment. Align marks.
4. Press ENTER ●. The result will be displayed.
5. Continue adding Reagent C dropwise until desired pH is reached.
6. Record number of drops dispensed and refer to Base Demand Treatment Table for correct amount of soda ash to add to raise pH.

**Treatment
Tables**

ACID DEMAND TREATMENT TABLE
To Decrease pH Using Muriatic Acid (20° Baumé / 31.45% HCl)

Volume of Water - U.S. Gallons/Liters							
Drops of pH 6.5-8.5 - Reagent B	400 gallons / 2,000 liters	1,000 gallons / 4,000 liters	5,000 gallons / 20,000 liters	10,000 gallons / 40,000 liters	20,000 gallons / 80,000 liters	50,000 gallons / 100,000 liters	100,000 gallons / 400,000 liters
1 drop	0.37 fl oz / 14.3 mL	0.92 fl oz / 28.6 mL	4.58 fl oz / 143 mL	9.16 fl oz / 286 mL	1.15 pt / 573 mL	1.43 qt / 716 mL	2.86 qt / 2.86 L
2 drops	0.73 fl oz / 28.6 mL	1.83 fl oz / 57.3 mL	9.16 fl oz / 286 mL	1.15 pt / 573 mL	1.15 qt / 1.15 L	2.86 qt / 1.43 L	1.43 gal / 5.74 L
3 drops	1.10 fl oz / 43.0 mL	2.75 fl oz / 85.9 mL	13.7 fl oz / 430 mL	1.72 pt / 859 mL	1.72 qt / 1.72 L	1.07 gal / 215 L	2.15 gal / 8.59 L
4 drops	1.47 fl oz / 57.3 mL	3.67 fl oz / 115 mL	1.15 pt / 573 mL	1.15 qt / 1.15 L	2.29 qt / 2.29 L	1.43 gal / 2.86 L	2.86 gal / 11.5 L
5 drops	1.83 fl oz / 71.6 mL	4.58 fl oz / 143 mL	1.43 pt / 716 mL	1.43 qt / 1.43 L	2.86 qt / 2.86 L	1.79 gal / 3.58 L	3.58 gal / 14.3 L
6 drops	2.20 fl oz / 85.9 mL	5.50 fl oz / 172 mL	1.72 pt / 859 mL	1.72 qt / 1.72 L	3.44 qt / 3.44 L	2.15 gal / 4.30 L	4.30 gal / 17.2 L
7 drops	2.57 fl oz / 100 mL	6.41 fl oz / 200 mL	1.00 qt / 1.00 L	2.00 qt / 2.00 L	1.00 gal / 4.01 L	2.51 gal / 5.01 L	5.01 gal / 20.0 L
8 drops	2.93 fl oz / 115 mL	7.33 fl oz / 229 mL	1.15 qt / 1.15 L	2.29 qt / 2.29 L	1.15 gal / 4.58 L	2.86 gal / 5.73 L	5.73 gal / 22.9 L
9 drops	3.30 fl oz / 129 mL	8.25 fl oz / 258 mL	1.29 qt / 1.29 L	2.58 qt / 2.58 L	1.29 gal / 5.15 L	3.22 gal / 6.44 L	6.44 gal / 25.8 L
10 drops	3.67 fl oz / 143 mL	9.16 fl oz / 286 mL	1.43 qt / 1.43 L	2.86 qt / 2.86 L	1.43 gal / 5.73 L	3.58 gal / 7.16 L	7.16 gal / 28.6 L

**Treatment
Tables**

BASE DEMAND TREATMENT TABLE
To Increase pH Using Soda Ash (Sodium Carbonate, 100%)

Volume of Water - U.S. Gallons/Liters							
Drops of pH 6.5-8.5 - Reagent C	400 gallons / 2,000 liters	1,000 gallons / 4,000 liters	5,000 gallons / 20,000 liters	10,000 gallons / 40,000 liters	20,000 gallons / 80,000 liters	50,000 gallons / 100,000 liters	100,000 gallons / 400,000 liters
1 drop	0.21 oz / 7.68 g	0.51 oz / 15.4 g	2.56 oz / 76.8 g	5.13 oz / 154 g	10.3 oz / 307 g	1.60 lb / 384 g	3.20 lb / 1.54 kg
2 drops	0.41 oz / 15.4 g	1.03 oz / 30.7 g	5.13 oz / 154 g	10.3 oz / 307 g	1.28 lb / 614 g	3.20 lb / 768 g	6.41 lb / 3.07 kg
3 drops	0.62 oz / 23.0 g	1.54 oz / 46.1 g	7.69 oz / 230 g	15.4 oz / 461 g	1.92 lb / 922 g	4.81 lb / 1.15 kg	9.61 lb / 4.61 kg
4 drops	0.82 oz / 30.7 g	2.05 oz / 61.4 g	10.3 oz / 307 g	1.28 lb / 614 g	2.50 lb / 1.23 kg	6.41 lb / 1.54 kg	12.8 lb / 6.14 kg
5 drops	1.03 oz / 38.4 g	2.56 oz / 76.8 g	12.8 oz / 384 g	1.60 lb / 768 g	3.20 lb / 1.54 kg	8.01 lb / 1.92 kg	16.0 lb / 7.68 kg
6 drops	1.23 oz / 46.1 g	3.08 oz / 92.2 g	15.4 oz / 461 g	1.92 lb / 922 g	3.85 lb / 1.84 kg	9.61 lb / 2.30 kg	19.2 lb / 9.22 kg
7 drops	1.44 oz / 53.8 g	3.59 oz / 108 g	1.12 lb / 538 g	2.24 lb / 1.08 kg	4.49 lb / 2.15 kg	11.2 lb / 2.69 kg	22.4 lb / 10.8 kg
8 drops	1.64 oz / 61.4 g	4.10 oz / 123 g	1.28 lb / 614 g	2.56 lb / 1.23 kg	5.13 lb / 2.46 kg	12.8 lb / 3.07 kg	25.6 lb / 12.3 kg
9 drops	1.85 oz / 69.1 g	4.61 oz / 138 g	1.44 lb / 691 g	2.88 lb / 1.38 kg	5.77 lb / 2.76 kg	14.4 lb / 3.46 kg	28.8 lb / 13.8 kg
10 drops	2.05 oz / 76.8 g	5.13 oz / 154 g	1.60 lb / 768 g	3.20 lb / 1.54 kg	6.40 lb / 3.07 kg	16.0 lb / 3.84 kg	32.0 lb / 15.4 kg

Interferences

Alkalinity, Total (CaCO_3) <60 ppm – negative interference
Alkalinity, Total (CaCO_3) >180 ppm – positive interference

The following analytes were tested to the levels listed and found not to cause any interference up to the specified values:
Biguanide (as product) – 50 ppm
Bromine – 10 ppm

Chlorine – 10 ppm
Copper – 0.5 ppm
Cyanuric Acid – 200 ppm
Hardness, Calcium (CaCO_3) – 1000 ppm

Test Method

Phenol Red

Phenol red has a working range of approximately 6.50–8.50. A water sample at the low end will turn yellow when treated with phenol red. The color will gradually transition to a dark reddish-purple as the sample's pH increases to 8.50.

Estimated Detection Limit

6.50 pH units

Precision

Using a single lot of reagent and a standard solution of pH 7.50, an individual analyst obtained a standard deviation with the instrument of ± 0.10 pH units.

Application

Potable Water, Recreational Water, and Wastewater

Ordering Info**Reagent Pack**

K-8027AB pH 6.5-8.5 (with Acid & Base Demand)

Formulated for exclusive use with Taylor's TTI® Colorimeter.

Reagent Pack Components

R-8027A pH 6.5-8.5 - Reagent A

R-8027B pH 6.5-8.5 - Reagent B

R-8027C pH 6.5-8.5 - Reagent C



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