ACIDITY TEST KIT

Model AC-6

Cat. No. 2223-01

TO ENSURE ACCURATE RESULTS PLEASE READ CAREFULLY BEFORE PROCEEDING.

The presence of chlorine in the water sample will cause a slight interference in the test. Up to 50 mg/L of chlorine may be removed, using Sodium Thiosulfate Solution 0.1*N*, Cat. No. 323-37. This solution is not included with the kit but may be ordered from Hach Company. *See Replacements.* Add one drop of Sodium Thiosulfate Solution 0.1*N* to the sample before adding the indicator to remove chlorine. Excessive agitation of the sample should be avoided to prevent the loss of dissolved gases such as carbon dioxide, hydrogen sulfide or ammonia.

WARNING: The chemicals in this kit may be hazardous to the health and safety of the user if inappropriately handled. Please read all warnings before performing the test and use appropriate safety equipment.

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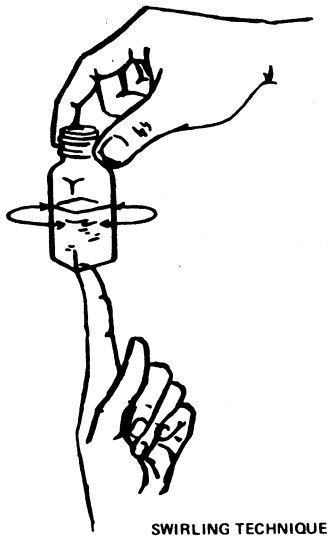
FREE ACIDITY TEST
High Range (0-400 mg/L)

1. Fill the plastic measuring tube level full with the water to be tested. Pour the contents of the tube into the square mixing bottle.
2. Use the clippers to open one Bromcresol Green-Methyl Red Powder Pillow. Add the contents of the pillow to the mixing bottle and swirl to mix as shown in Figure 1.
3. If the water turns gray-blue, blue or green, the free acidity is zero.
4. If the water turns pink, add the Sodium Hydroxide Standard Solution drop by drop, holding the dropper vertically. Count each drop as it is added. Swirl the mixing bottle after each drop. Continue adding drops until the water just begins to turn grey-blue.
5. The free acidity of the water, expressed in mg/L as calcium carbonate ($CaCO_3$), is equal to the number of drops of Sodium Hydroxide Standard Solution used times 20.
6. To express the results in grains per gallon as calcium carbonate divide the mg/L results by 17.1.



SWIRLING TECHNIQUE

Figure 1

Low Range (0-100 mg/L)

1. Fill the bottle to the 23 mL mark with the water to be tested.
2. Use the clippers to open one Bromcresol Green-Methyl Red Powder Pillow. Add the contents of the pillow to the mixing bottle and swirl to mix as shown in Figure 1.
3. If the water turns gray-blue, blue or green, the free acidity is zero.
4. If the water turns pink, add the Sodium Hydroxide Standard Solution drop by drop, holding the dropper vertically. Count each drop as it is added. Swirl the mixing bottle after each drop. Continue adding drops until the water just begins to turn gray-blue.
5. The free acidity of the water, in mg/L as calcium carbonate ($CaCO_3$), is found by multiplying the number of drops of Sodium Hydroxide Standard Solution by 5.
6. To express the results in grains per gallon as calcium carbonate divide the mg/L results by 17.1.

TOTAL ACIDITY TEST
(0-400 mg/L)

1. Fill the plastic measuring tube level full with the water to be tested. Pour the contents of the tube into the square mixing bottle.
2. Add one drop of Phenolphthalein Indicator Solution to the mixing bottle and swirl to mix.
3. If the water turns pink, the total acidity is zero.
4. If the water remains colorless, add the Sodium Hydroxide Standard Solution drop by drop, holding the dropper vertically. Count each drop as it is added. Swirl the mixing bottle after each drop. Continue adding drops until the sample just begins to turn slightly pink.
5. The free acidity of the water, expressed in mg/L as calcium carbonate ($CaCO_3$), is equal to the number of drops of Sodium Hydroxide Standard Solution used times 20.
6. To express the results in grains per gallon as calcium carbonate divide the mg/L results by 17.1.

REPLACEMENTS

Cat. No.	Description	Unit
943-99	Bromcresol Green-Methyl Red Indicator Powder Pillows	pkg/100
1897-36	Phenolphthalein Indicator Solution, 1 g/L	15 mL (½ oz) SCDB*
23493-37	Sodium Hydroxide Standard Solution 0.035*N*	118 mL (4 oz) MDB†
2327-06	Square Mixing Bottle	pkg/6
936-00	Clippers	each
438-00	Plastic Measuring Tube, 5.83 mL	each
323-37	Sodium Thiosulfate Solution 0.1*N* (not included in kit)	118 mL(4 oz)MDB†

*Self-Contained Dropper Bottle
†Marked Dropper Bottle

Sodium Hydroxide Standard Solution 0.035*N* slowly absorbs carbon dioxide when exposed to air, causing partial loss of strength. The Sodium Hydroxide Solution should be checked periodically to assure correct strength.

MADE IN U.S.A.
4/88