**PQ-80 TEST KIT**
**CODE ISK-9441-80**

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<td>15 mL</td>
<td>*PQ-80 Indicator Solution</td>
<td>*ISK-6413-E-80</td>
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<td>15 mL</td>
<td>*Sodium Hydroxide, 1.0N</td>
<td>*ISK-4004-E</td>
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<td>60 mL</td>
<td>PQ-8 Titrating Reagent</td>
<td>ISK-9442-H</td>
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<td>1</td>
<td>Direct Reading Titrator, 0-1 Range (Red Tape)</td>
<td>0376</td>
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<tr>
<td>1</td>
<td>Test Tube, 5-10-15 mL, glass, w/cap</td>
<td>0778</td>
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<tr>
<td>1</td>
<td>Direct Reading Titrator, 0-1 Range (Green Tape)</td>
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*WARNING:* Possible health hazard. Read MSDS.

**PROCEDURE**

1. Obtain a fresh sample of the dipping solution. Every attempt should be made to carefully mix the dipping solution prior to sampling to insure that a representative sample is obtained.

2. The red taped syringe is the sampler. Insert this 1.0 mL syringe into the sample. Depress the plunger of the syringe to expel air. Withdraw the plunger until the bottom of the plunger is opposite the 0.5 mark on the scale.

   **NOTE:** A small air bubble may appear in the Titrator barrel. Expel the bubble by partially filling the barrel and pumping the solution back into the sample. Repeat this pumping action until the bubble disappears.

3. Completely empty the contents of the syringe into the test tube.

4. Fill the test tube (0778) to the 10 mL line with clean tap water or distilled water.

5. Add 5 drops of 1.0N *Sodium Hydroxide Solution (4004).

6. Add 7 drops of the *PQ-80 Indicator Solution (6413) to the sample. Cap the tube and swirl to mix. A brown color will develop.
7. The green taped syringe is the Titrator. Depress the plunger of the syringe to expel air. To fill the Titrator, insert the titrator tip into the center hole of the titration solution bottle, invert the solution bottle (Figure A) and slowly withdraw the plunger until the bottom of the plunger is opposite the zero mark on the scale (Figure B).

NOTE: A small air bubble may appear in the Titrator barrel. Expel the bubble by partially filling the barrel and pumping the titration solution back into the inverted solution bottle. Repeat this pumping action until the bubble disappears.

Next, turn the bottle right-side-up and remove the Titrator.

8. While gently swirling the tube, slowly press the plunger to titrate until the brown color changes to a green color with no trace of brown (Figure C). Record the number from the titrator scale (Figure D).

9. Divide 295 by the number on the scale to obtain dip tank strength. For example, if the titrator reads 0.98, then:

\[
295 \text{ divided by } 0.98 = 301
\]

This solution is 1 gallon PQ-80 per 301 gallons of water.

NOTE: For those solutions which are stronger than 1:285, it will be necessary to refill the titrator in order to achieve color change. If this is done, please remember to add the number of full titrators used to the final titrator reading before calculating solution strength.

Always rinse well with clean water after each test.

SAFETY PRECAUTIONS

A. Read all instructions to familiarize yourself with the test procedure before you begin. Note any precautions in the instructions.

B. Read the label on each reagent container prior to use. Some containers include precautions notices and first aid information.

C. Keep all equipment and reagent chemicals out of reach of children.

D. In the event of an accident or suspected poisoning, immediately call the Poison Center phone number in the front of your local telephone directory or call your physician. Be prepared to give the name of the reagent in question and its code number.

PROTECT YOURSELF AND YOUR EQUIPMENT: USE PROPER ANALYTICAL TECHNIQUES

A. Avoid contact between reagent chemicals and skin, eye, nose, and mouth.

B. Wear safety goggles or glasses when handling reagent chemicals.

C. Use the test tube caps or stoppers, not your fingers, to cover test tubes during shaking or mixing.

D. When dispensing a reagent from a plastic squeeze bottle, hold the bottle vertically upside-down (not at an angle) and gently squeeze it (if a gentle squeeze does not suffice, the dispensing cap or plug may be clogged).

E. Wipe up any reagent chemical spills, liquid or powder, as soon as they occur. Rinse area with wet sponge, then dry.

F. Thoroughly rinse test tube before and after each test. Dry your hands and the outside of the tube.

G. Tightly close all reagent containers immediately after use. Do not interchange caps from different containers.

H. Avoid prolonged exposure of equipment and reagents to direct sunlight. Protect them from extremely high temperatures and protect them from freezing.