

## PHPA TEST

### Supplies

1. Hand cranking centrifuge
2. 2 graduated centrifuge tubes
3. Floc developer solution
4. Cresol red indicator
5. Hydrochloric acid (0.2N)
6. Sodium hydroxide (0.2N)

### Test Procedure

1. Add 12 mL fresh water into a test tube and place in centrifuge tube for balance.
2. Add 10.0 mL Filtrate in the graduated centrifuge tube.
3. Add 6 drops of Cresol Red indicator and with the tube covered invert gently. A reddish purple color will develop to indicate a pH greater than 7.0.
4. Add 0.2N Hydrochloric Acid, drop by drop, inverting gently each time until the solution turns an orange-yellow. If you overshoot the endpoint, back titrate with 0.2N Sodium Hydroxide.
5. Add 2mL Floc Developer solution.
6. Slowly turn the tube upside down to mix for 15-20 seconds and then allow the solution to stand for 3-4 minutes.
7. Invert the centrifuge tube a few times and place it in the centrifuge.
8. Centrifuge for one minute at a cranking speed of 120 revolutions per minute, (same as 10 revolutions every 5 seconds).
9. Remove the centrifuge tubes and record the amount of centrifuged precipitate as milliliters of precipitate.

### Calculations

mL precipitate x 1.4 = kg/m<sup>3</sup> Polyacrylamide



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