

Acid Base Relations

Recommended for Chapter(s): 4

Demo #014

Materials NOT in box

1. Safety goggles.

Procedure

1. Pour ~500 mL of DI water into the 1000 mL Erlenmeyer flask.
2. Put three drops of the phenolphthalein solution in the beaker.
3. Add ~ 2 mL of 1 M NaOH into the Erlenmeyer flask and swirl the flask.
4. Add slightly more than ~2 mL of 1 M HCl to the solution and swirl. The solution will turn clear again.
5. The processes can be repeated as many times as you wish.

Safety

1. Wear safety goggles.

Clean Up

1. Stopper the bottle.
2. Return the materials to the cart in the demonstration library room.

Stockroom Notes

1. Make sure the waste is neutralized and pour down the drain.
2. Replace glassware with clean glassware.
3. If needed refill any materials that have been used up.
4. Return items to demonstration tub.
5. Return tub to the demonstration library.
 - a. Return the goggles to the goggle box

Discussion

Phenolphthalein is an indicator that turns pink in basic solutions. Initially the DI water has a pH of ~7. Therefore, the solution is clear. Once the NaOH has been added to the water the solution is basic and therefore turns pink in color. As long as slightly more HCl is added than of NaOH the solution will turn acidic again and be clear. This process can be repeated by putting slightly more acid or base each time.

Materials for demo 014

1. 1000 ml Erlenmeyer flask with stopper
2. 0.5% Phenolphthalein in dropper bottle
3. 1.0 M HCl
4. 1.0 M NaOH
5. DI water