

Milk of Magnesia Neutralization on a Stir Plate

Instructions

Materials:

Beaker with ice

Water

Magnetic stir bar

Stir plate

Universal Indicator

20-25 mL Milk of Magnesia

0.1 M HCl_(aq)

Set Up:

1. Add ice to a large beaker.
2. Add water (2x the volume as ice) to the same beaker. This cooled water will slow down the reaction.
3. Add magnetic stir bar and turn ON the stir plate.
4. Add 1-2 mL of Universal Indicator. The water will turn green.

Demo Procedure:

1. Point out to the students that the Universal Indicator is green for neutral solutions.
2. Add a cap full of milk of magnesia. The cloudy solution turns blue as the magnesium hydroxide in the antacid dissolves into the aqueous solution.
3. Turn up the stir plate to make sure that the stir bar is rotating smoothly.
4. Add a small amount of HCl_(aq) and the solution turns red instantly.
5. Within a few seconds the solution turns back to blue as the magnesium hydroxide dissolves into the solution, neutralizes the hydrochloric acid, and turns the solution basic again.