

Oscillating Milk of Magnesia

Instructions

Materials:

Cold water

Milk of magnesia

Universal Indicator

3.0 M HCl, hydrochloric acid

Demo Procedure:

1. Fill a large Erlenmeyer flask with cold water.
2. Add 1 cap full of milk of magnesia.
3. Add universal indicator and the solution turns blue.
4. The solution is cloudy because most of the milk of magnesia is still insoluble.
5. Add 1-2 mL of hydrochloric acid, and the solution turns red due to the acidity.
6. As you swirl the flask, more of the antacid dissolves and the pH of the solution increases, the solution turns green then back to blue as the solution first becomes neutral then more alkaline, pH above 7.
7. Add another mL of acid, to decrease the pH, and to turn the solution back to red again.
8. As you swirl the flask again, the solution oscillates back to a higher pH and the color of the solution returns to green and then to blue once again.