

Elephant Toothpaste

Instructions

Materials:

30% hydrogen peroxide, H₂O₂

Potassium iodide, KI

Dishwashing liquid

Graduated cylinder

Wood splint

Match

Safety Precautions:

30% hydrogen peroxide should be stored in the refrigerator when not in use. It is a strong oxidizer and very corrosive to the skin, eyes, and respiratory tract. Wear safety goggles and if possible perform this demonstration under a vented hood.

Set Up:

1. This reaction produces a tremendous amount of foam so place the graduated cylinder inside a large tray to contain the waste.
2. Set out the reagents so that all the items are easily within your reach.

Demo Procedure:

1. Carefully pour 50 mL of 30% H₂O₂ into a tall graduated cylinder.
2. Add couple squirts of dishwashing detergent.
3. Add a small amount of KI to the cylinder and step away quickly.
4. The reaction is immediate; heat, steam and foam are produced and shoot out of the cylinder and spills over the side.
5. The foam is generated by the production of oxygen gas. This can be shown by using a glowing splint test.
6. Away from the foam, light a wood splint with a burning match. Blow out the flame but make sure that there is a visible glow on the tip of the splint.
7. Insert the glowing tip into the foam and watch as the splint re-ignite due to the concentrated oxygen gas in the foam. This can be repeated a few times using the same glowing splint.

Waste Disposal: Carry the entire tray with the cylinder and the foam to a deep sink. Allow the water to rinse away all the foam and the left over solution.