

## PRE-LAB DISCUSSION

Removal of the stopper from an "Aladdin's Lamp" (any opaque bottle or container) results in the delayed evolution of a large cloud of water vapor some what like the mystical "jinni"

**PURPOSE**            To produce cloud

**EQUIPMENT**        A large bottle  
                         Stopper  
                         Rubber gloves  
                         Tea bag

**MATERIALS**        hydrogen peroxide, H<sub>2</sub>O<sub>2</sub>  
                         Potassium iodide, KI

## PROCEDURE

1. Obtain a large opaque bottle and a stopper or cap to fit.
2. Add 30-50 mL of 30% hydrogen peroxide to the bottle. CAREFUL: WEAR RUBBER GLOVES and SAFETY GOGGLES. WHEN HANDLING 30% HYDROGEN PEROXIDE. CONTACT WITH THE SKIN MAY CAUSE BURNS.
3. Remove the tea from a tea bag and refill it with 1/4 table spoons of solid potassium iodide. Tie the tea bag securely with its string.

4. Place the tea bag inside the neck of the bottle. While holding the string/ insert the stopper to hold the bag in place.
5. When ready to perform the demonstration/ remove the stopper and allow the tea bag to fall into the hydrogen peroxide. Be sure to point the neck of the bottle up and in a safe direction.
6. Within a few seconds, an exothermic reaction in the bottle will produce a large amount of oxygen gas and water vapor that will form an impressive cloud as it escapes from the bottle.

## CONCLUSIONS AND QUESTIONS

1. Which is more stable/ the hydrogen peroxide molecule or the water molecule? Why?
2. Show that the catalyst is not "consumed" in this reaction.
3. What is the structure of hydrogen peroxide? (HO - OH)
4. Write the reaction in the experiment.