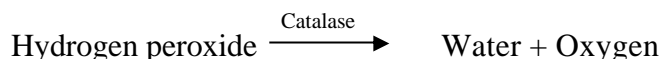


ENZYME ACTION

NAME: Catalase

DESCRIPTION: Brown Liquid, MC 23.05.

ACTION: The enzyme Catalase acts upon hydrogen peroxide in cells to produce oxygen and water



STORAGE: Store in the refrigerator at 4°C.

SAFETY: Enzymes are biologically active proteins and should be handled with care. Avoid direct contact.

TIPS FOR TEACHERS:

Suggested pracs:

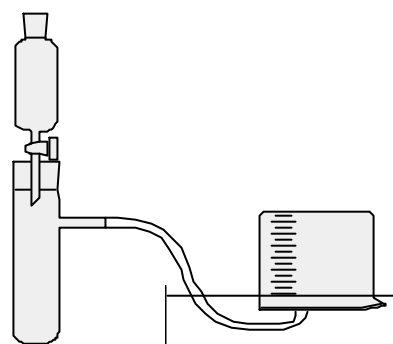
Prepare a gas collection system before starting the experiment. You can use the example provided with this information sheet.

Dilute the catalase to 50% and place 5mL into a large flask with sealed stopper.

Quickly add 5mL of 3% hydrogen peroxide and replace the stopper immediately. The process occurs very rapidly once the catalase comes into contact with the hydrogen peroxide.

You can measure the amount of gas (oxygen) produced as a result of the reaction.

Run a control along side your experiment by substituting distilled water for the catalase solution.



Schematic diagram of apparatus to collect gas.

Comments and further Ideas:

Most living tissue contains catalase. Its purpose is to “mop up” hydrogen peroxide (H_2O_2) before it can attack the tissue. Sliced potato, raw liver, ground meat, ground fresh grass, blood and yeast cells are all sources of this enzyme. You can study the activity of catalase in natural materials. Try comparing different sample preparation methods, concentrations and reaction temperatures.

Please note: Variations in substrate composition and enzyme activity can mean that the suggested experiment might not work exactly as described in every situation.