

Experiment - 2(a)

- Aim: Performing and ~~observing~~ observing the action of water on quicklime and classifying the reaction
- Material required: Calcium oxide, water, beaker, glass rod, dropper, red litmus paper, test tube, filter paper, funnel
- Experiment:
 - » Take some calcium oxide in beaker & pour some water over quicklime slowly. Stir it with a clean rod & touch the outer surface of the beaker
 - » Take a clean dropper and with its help put a drop of liquid from the beaker on a red litmus paper
 - » Filter the mixture of beaker and take about 5ml of filtrate in a test tube. Blow air through the liquid.
- Observation:
 - » A new substance is formed with a hissing sound outer surface of the beaker is hot

- » Red litmus paper turns blue
- » On passing CO_2 through the clear filtrate it turns milky.
- Interface :
 - » Water react with quick lime to form a new substance. As heat is evolved, the reaction of water & quicklime is exothermic^m.
 - » A new substance formed by the reaction of water & quicklime is basic in nature
 - » The new substance formed by the reaction ~~by the~~ of quick lime & water is calcium hydroxide.
- Result :
 - » Two compounds, viz, quick lime & water combines to form calcium hydroxide. Therefore, this reaction is an example of combination reaction.
- Precautions :
 - » The filtrate collected should be clear
 - » Quick lime can cause severe burns, therefore it should be handled with spatula.

Experiment - 2(C6)

- Aim: Performing & observing the action of heat on ferrous sulphate crystals & classifying the reaction
- Material required: Ferrous sulphate crystals, test tubes, test tube holder, blue litmus paper
- Experiment:
 - » Take about 2g crystals of ferrous sulphate in a dry test tube & note the colour of crystals.
 - » Heat the test tube containing ferrous sulphate
- Observation:
 - » The crystal are green in colour
 - » The colour of crystals changes to brown & colourless gas with a smell of burning sulphur is evolved
- Inference:
 - » The colour of ferrous sulphate is green
 - » New substance are formed by the

heating of ferrous sulphate

• Result:

- » On heating, ferrous sulphate decompose to give ferric oxide, sulphur dioxide and sulphur trioxide. This is a decomposition reaction

• Precaution:

- » while heating ferrous sulphate, keep the mouth of test tube away from you & your classmates

Experiment - 2(c)

- Aim: Performing and observing the reaction of iron nails kept in copper sulphate solution and classifying the reaction
- Material Required: Iron nails, copper sulphate solution, test tube, test tube stand, sandpaper and thread
- Procedure:
 - > Take 2 iron nails and clean them by rubbing with sandpaper
 - > Take two test tubes and mark them as 'A' and 'B'
 - > In each test tube, pour about 10ml of copper sulphate solution
 - > Tie one iron nail with a thread and immerse this carefully in the copper sulphate solution in test tube A for about 20 min. Keep aside one nail for comparison
 - > After 20 min, take out the iron nail from the copper sulphate solution
 - > Compare the intensity of blue colour of copper sulphate solution of both the

test tube 'A' and 'B'

- Also compare the colour of iron nail dipped in copper sulphate solution with one kept aside

◦ Observation:

- The initial colour of copper sulphate solution was blue which after immersing iron nails turns to light green. The initial colour of iron nail was grey. After immersing the nail into copper sulphate solution, a brown coating developed over it. Because of this coating iron nail appears reddish brown.

- Result: On keeping the iron nails in copper sulphate solutions, a displacement reaction takes place. In this displacement reaction, iron displaces copper and two new products ferrous sulphate and copper are formed.

◦ Precautions:

- The iron nails should be cleaned by rubbing them with a sandpaper.
- The ~~for~~ test tube containing iron nails

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and copper sulphate solution should not
be disturbed

Experiment (2d)

- Aim: Performing and observing the reaction between sodium sulphate and barium chloride solution and classify their reaction
- Material required: Sodium sulphate solution, barium chloride solution, test tubes, beaker
- Procedure:
 - >> Take 5ml of sodium sulphate solution in a test tube and mark it as 'A'
 - >> Take 5ml of barium chloride solution in another ~~tube~~ test tube and mark it as 'B'
 - >> Mix the solutions of test tube 'A' and 'B' in a beaker
 - >> With the help of a clean glass rod, stir the mixture kept in beaker
 - >> Record your observation
- Observation: On mixing the solutions of sodium sulphate and barium chloride, a white precipitate is formed

- Result: On mixture the solutions of sodium sulphate and barium chloride a double displacement reaction takes place. In this reaction sodium sulphate and barium chloride exchange ions and new products barium ~~salt~~ sulphate (white ppt) and sodium chloride are formed.

Precautions:

- » Test tubes, beaker and glass rod should be cleaned.
- » Equal volumes of sodium sulphate and barium chloride solutions should be used.