

CLASS IX PRACTICALS FOR SUMMATIVE ASSESSMENT SA-1

Experiment 4. To carry out the following reactions and classify them as physical or chemical changes.

- Iron with copper sulphate solution in water.
- Burning of magnesium in air.
- Zinc with dilute sulphuric acid
- Heating of copper sulphate
- Sodium sulphate with barium chloride in the form of their solutions in water.

Materials Required : Copper sulphate solution, iron nails, Test tubes, Thread, Beaker and test tube stand.

Part (a) Procedure : Take copper sulphate solution in a test tube Dip two iron nails into it.

Observation : Brown coating of copper metal is seen on iron nails after 15 minutes.

Inference : Copper is displaced by iron.

Inference : 1. Iron is more reactive than copper. 2. This is a displacement reaction.

Precautions :

- Iron nail should be free from dust or rust.
- About 15 minutes time should be taken before taking observation.

Part (b) Material Required : Magnesium ribbon, A pair of tongs, Match box, china dish and burner.

Observation : A sparkling light is seen and when product formed is allowed to fall a china dish a white powder is seen.

Inference : Magnesium oxide is formed.

Inference : 1. Magnesium burns in air to form magnesium oxide. 2. This reaction is a combination reaction.

Precautions :

- Magnesium ribbon should be cleaned with a sand paper before burning.
- Magnesium ribbon should be taken into flame with the help of a pair of tongs only.
- Sparkling light produced should be seen not for a long time.

Part (c) Materials Required : Zinc granules, Dil. Sulphuric acid, test tube, test tube stand, match box.

Procedure :

- Put a few pieces of zinc granules in a test tube.
- Add about 2 ml dil. Sulphuric acid to it.

Observation : A colourless gas is produced which burns with a pop sound when a burning match stick is brought near it. The gas is hydrogen gas.

Inference : Zinc metal reacts with dil. Sulphuric acid to give hydrogen gas.

Inference :

- Zinc metal reacts with dil. H_2SO_4 to give hydrogen gas.
- This reaction is a displacement reaction.

Precautions :

- Sulphuric acid should be handled carefully.
- Burning of hydrogen gas should be done carefully under the supervision of teacher.

Part (d) Materials Required : Lead nitrate crystals, hard glass test tube, test tube holder, burner.

Procedure : Heat a few crystals of lead nitrate in a hard glass test tube gently and then heat it strongly.

Observation : A reddish brown gas with pungent smell is produced and a yellow residue is left behind in test tube.

Inference : The gas produced is oxygen nitrogen dioxide and yellow residue lead oxide.

Inference :

1. Heating of lead nitrate gives solid lead oxide, gaseous nitrogen dioxide and oxygen.
2. This reaction is decomposition reaction.

Precautions :

1. Use hard glass test tube for this experiment.
2. Use test tube holder while heating.
3. Test tube should not face towards the observer
4. Do not inhale nitrogen dioxide gas.

Part (e) Materials Required : Barium Chloride solution, test tube and test tube stand.

Procedure: Mix 10 ml of aq. Solution of sodium Sulphate in a test tube.

Observation : White precipitate (insoluble material) is formed.

Inference : Insoluble barium Sulphate (white) is formed.

Inference : 1. Mixing of aq. Solutions of barium Chloride and Sodium Sulphate gives white precipitate of barium sulphate this is a precipitation reaction.

2. This is a double decomposition reaction.

Precautions : 1. Do not touch any solution. 2. The solutions should be prepared in distilled water.