

Chapter-4 Materials: Metals and Non-Metals

Question:- Give reasons for the following.

- i. Aluminium foils are used to wrap food items.*
- ii. Immersion rods for heating liquids are made up of metallic substances.*
- iii. Copper cannot displace zinc from its salt solution.*
- iv. Sodium and potassium are stored in kerosene.*

Answer:-

- i. Aluminium foils are used to wrap food items: Because it maintains the temperature of food items as it is a good conductor of heat. It is safe for food stuffs.*
- ii. Immersion rods for heating liquids are made up of metallic substances: Metals are good conductor of electricity and heat that is why immersion rods are made up of metals.*
- iii. Copper cannot displace zinc from its salt solution: Copper cannot displace zinc from its salt solution because zinc is more reactive metal cannot displace a more reactive metal.*
- iv. Sodium and potassium are stored in kerosene: Sodium and potassium are stored in kerosene because sodium and potassium metals are highly reactive in water and air (oxygen-[O₂]). When they come in contact with air and water it catches fire easily.*

Question:- Can you store lemon pickle in an aluminium utensil?

Explain.

No, we cannot store lemon pickle in aluminium utensils because acid reacts with metal (aluminium).

Question:- What happens when

- i. Dilute sulphuric acid is poured on a copper plate?*
 - ii. Iron nails are placed in copper sulphate solution?*
- Write word equations of the reactions involved.*

Answer:- Dilute sulphuric acid is poured on a copper plate?

- i. *When Dilute sulphuric acid is poured on a copper plate the copper metal reacts with sulphuric acid to liberate hydrogen gas.*
- ii. *When iron nails are placed in copper sulphate solution we can observe a brownish substance on iron nails that is copper.
Copper sulphate + Iron = Iron sulphate + copper.
 $CuSO_4 + Fe = FeSO_4 + Cu$.*

Question: Saloni took a piece of burning charcoal and collected the gas evolved in a test tube.

- i. *How will she find the nature of the gas?*
- ii. *Write down word equations of all the reactions taking place in this process.*

Answer:-

- i. *To find the nature of the gas, she can collect it in a jar and then mix water, shake well and then perform the litmus test. It will turn blue litmus red that shows its acidic.*
- ii. *Carbondioxide + water = Carbonic acid*

Question: One day Reeta went to a jeweller's shop with her mother. Her mother gave old gold jewellery to the goldsmith to polish. Next day when they brought the jewellery back, they found that there was a slight loss in its weight. Can you suggest a reason for the loss in weight?

Answer: *Gold jeweller must have put the gold jewellery in aqua regia. It is a mixture of concentrated sulphuric acid and citric acid. The mixture has a capability to dissolve gold.*