

Practical No. 2

Aim : To identify the type of reaction by studying the reaction and recording the observations.

1. Combustion of magnesium in air.
2. Action of dilute sulphuric acid on zinc.
3. To heat lead nitrate.

Apparatus : Beaker, test tubes, pair of tongs, burner, glass rod, etc.

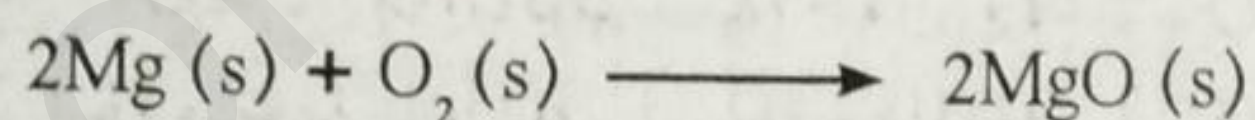
Chemicals : Zinc dust, magnesium strip, lead nitrate powder, dilute sulphuric acid.

Procedure :

Part I : Combustion of magnesium in air.

1. Hold a piece of magnesium strip on the flame of a burner.
2. Record the observation and write the reaction.

Reaction 1 :



Observations :

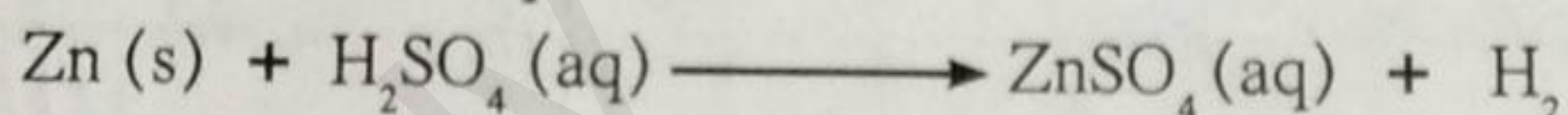
1. The magnesium strip burns with luminous flame.
2. A white coloured powder remains behind.

Reaction	Number of reactants	Number of products	Interesting feature of the reaction	Type of the reaction
$2\text{Mg} + \text{O}_2 \longrightarrow 2\text{MgO}$	2	.....2.....	By two reactant Single product...	Combination reaction..

Part II : Action of dilute sulphuric acid on zinc.

1. Take some zinc dust in a test tube.
2. Add 3 to 4 ml dilute sulphuric acid ($\text{dil H}_2\text{SO}_4$) in it.
3. Record the observation and write the equation.

Reaction 2 :



Observations :

1. A colourless gas is liberated.
2. A glowing splinter get extinguished and the gas burns with blue flame production a noise.
3. The zinc powder disappears and a colourless solution is obtained.

Reaction	Number of reactants	Number of products	Interesting feature of the reaction	Type of the reaction
$\text{Zn} + \text{H}_2\text{SO}_4 \longrightarrow \text{ZnSO}_4 + \text{H}_2$	...4....	...4....	Displace the ions.....	Displace- ment reaction

Part III : To heat lead nitrate.

1. Take a one teaspoonful white coloured lead nitrate powder in a test tube.
2. Heat it on a burner.
3. Hold a moist blue litmus paper at the mouth of the test tube.
4. Hold a glowing splinter at the mouth of the test tube.
5. Record the observation and write the reaction.



Observations :

1. A reddish brown coloured gas turning moist blue litmus paper red is liberated.
2. The glowing splinter keeps on glowing.

Reaction	Number of reactants	Number of products	Interesting feature of the reaction	Type of the reaction
$2\text{Pb}(\text{NO}_3)_2 \xrightarrow{\text{Heat}} 2\text{PbO}(\text{s}) + 4\text{NO}_2 \uparrow + \text{O}_2 \uparrow$	...3....	...3....	Simple substances are formed.	Decomposition

Inference / Conclusion :

1. Reactions are called 'displacement reactions', when atom or group of atoms in one substance takes place of atom or group of atoms in the other substance to form new substances.
For example, action of dilute sulphuric acid on zinc.
2. Reaction are called 'combination reactions', when a single product is formed from two or more reactants in a chemical reaction.
For example, the reaction between magnesium and oxygen.
3. When two or more simpler substances are formed from a single compound, the reaction is called 'decomposition reaction'. For example, heating lead nitrate.

Multiple Choice Questions

1. Rusting of an iron nail is a reaction.
a. combination b. displacement ☒ c. decomposition d. double displacement
2. The following change is observed on dipping a litmus paper in aqueous solution of MgO.
a. Red litmus turns blue, therefore MgO is alkaline.
b. Blue litmus turns red, therefore MgO is acidic.
☒ c. No colour change in litmus paper, therefore MgO is neutral.
d. Litmus paper is decolourised, therefore MgO acts as bleaching agent.
3. What is the colour of a solution formed on dipping a piece of zinc in dilute sulphuric acid?
☒ a. colourless b. colourless solution turns red c. black d. red

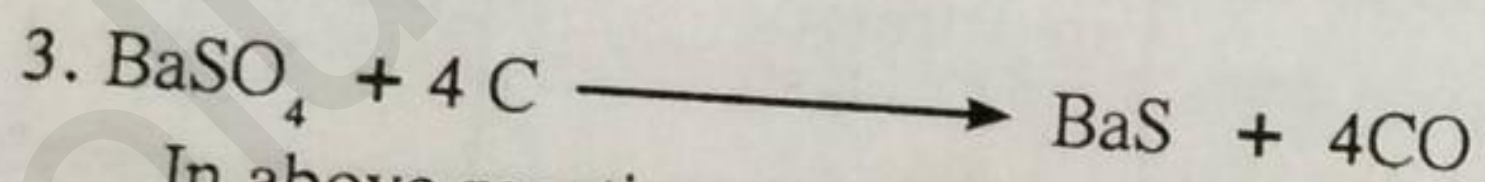
: Exercise :

1. Why does some liquid medicines kept in dark coloured bottles?

They rays of med sunlight effect the bottles of medicine and something different is formed by there reaction. Therefore, To preventing the medicines, they were kept in dark coloured bottle.

2. Why does edible oils shows rancidity when stored for long period?

When oils kept for long period that time oxidation reaction take place and the odour or smell of that oil is foul, so they become rancid.



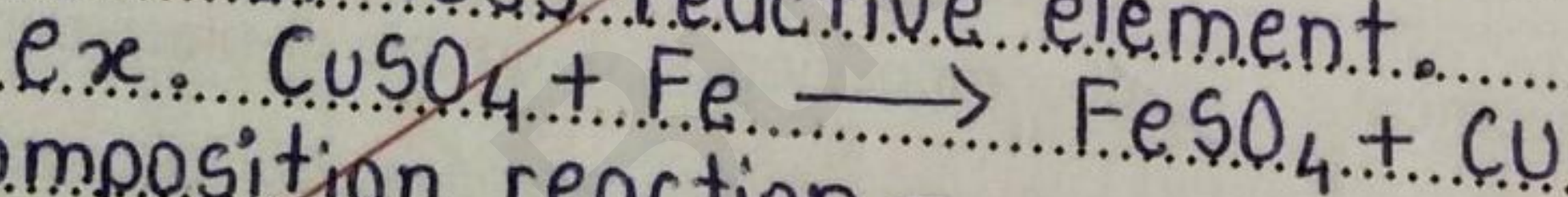
In above reaction, write for each reactant that undergoes oxidation or reduction and identify the type of reaction.

In the above reaction the reactant BaSO_4 lost their oxygen means that reoduction take place. But the other reactant carbon gain the oxygen. therefore, this is an oxidation reaction. Means, in which reaction, oxidation and reduction takes place that reaction is called as redox reaction.

4. Give one example each of displacement, decomposition and combination reaction with explanation.

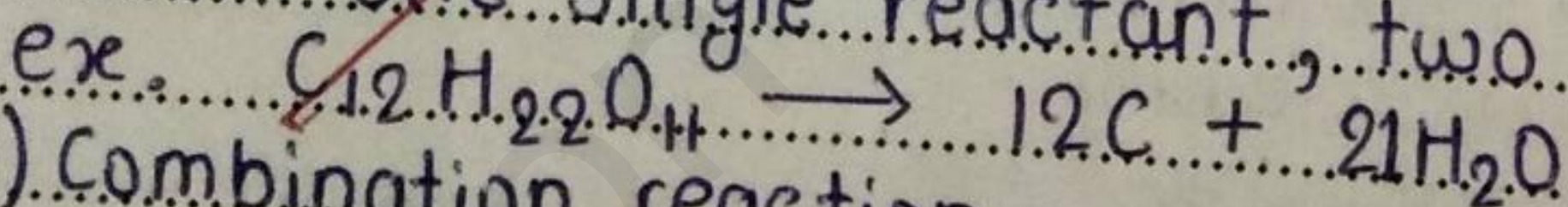
(i). Displacement reaction -

The reaction, in which most reactive element displace on the place of less reactive element.



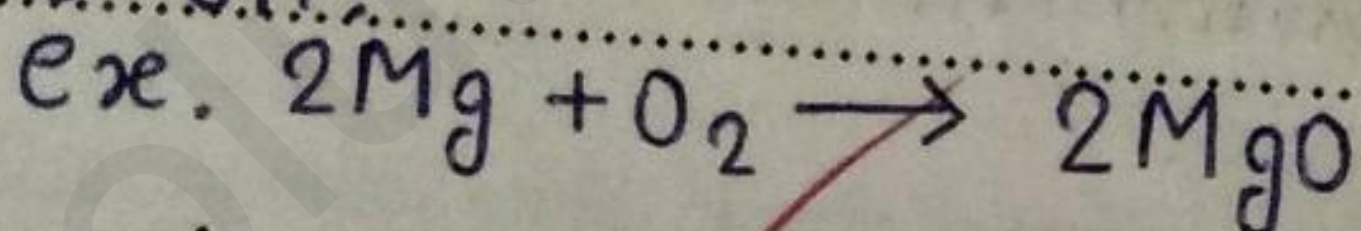
(ii). Decomposition reaction -

From one single reactant, two or more products are form



(iii). Combination reaction -

Single product is formed from 2 or more product reaction.



Remark and Signature

