

Chemistry Practical Class 9 To carry out the reaction of Burning of magnesium ribbon in air and classify it as physical or chemical changes Viva Questions with Answers

Q1. Define Physical Changes.

Answer. A physical change occurs when there is no change in the composition of a substance and no change in the chemical nature of the substance.

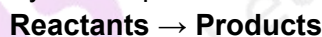
The interconversion of state occurs during physical change.



Q2. Define Chemical Changes.

Answer. It is a change that causes a change in the chemical properties of matter, resulting in the formation of a new substance. As an example, consider the burning of oil or fuel.

Heat is evolved or taken in, the formation of bubbles, gas, and fumes, as well as a change in the colour of the reactants, can take place when they form a product.



Q3. What is a Chemical Reaction?

Answer. A chemical reaction is a chemical change in which the bonds are broken within reactant molecules, and new bonds are formed within product molecules in order to form a new substance. A chemical reaction can be represented by a chemical equation, which specifies the number and type of atoms involved, as well as their arrangement into molecules or ions. The element symbols are used as a shorthand notation for the elements in a chemical equation, with arrows indicating the direction of the reaction.

Q4 How many types of chemical reactions are there?

Answer. There are 4 types of chemical reactions. They are as follows-

- Combination Reaction
- Decomposition Reaction
- Displacement Reaction
- Double Displacement Reaction

Q5. Define Combination reaction.

Answer. A reaction in which two or more reactants combine to form a single product is known as a combination reaction. It takes the form of $X + Y \rightarrow XY$

Combination reaction is also known as a synthesis reaction.

Example of combination reaction: $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$

Q6. Define Decomposition Reaction.

Answer. A reaction in which a single compound breaks into two or more simpler compounds is known as a decomposition reaction.

It takes the form of $XY \rightarrow X + Y$

A decomposition reaction is just the opposite of a combination reaction.

Example of a decomposition reaction: $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$

Q7. Define Displacement Reaction.

Answer. A chemical reaction in which a more reactive element displaces a less reactive element from its aqueous salt solution. It takes the form $X + YZ \rightarrow XZ + Y$

It is also called a substitution reaction

Example of displacement reaction: $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$

Q8. Define Double Displacement Reaction.

Answer. A chemical reaction in which ions get exchanged between two reactants which form a new compound is called a double displacement reaction. It takes the form of $XY + ZA \rightarrow XZ + YA$

It is also called a metathesis reaction

Example of a double displacement reaction:

$\text{BaCl}_2 + \text{Na}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2\text{NaCl}$

Q9. What is the formula of Magnesium?

Answer. The formula of Magnesium is Mg.

Q10. Give the reaction between magnesium and oxygen?

Answer. Magnesium reacts with oxygen to form magnesium oxide.

Q11. What is the equation for the reaction?

Answer. The equation for the reaction is as follows-

$\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$

Q12. Note down the observations for the experiment.

Answer. Some of the observations of the experiment are-

- Magnesium burns with dazzling white flame.
- A white powdery mass of magnesium oxide is formed.

Q13. What is the colour of the flame when magnesium burns in the air?

Answer. Magnesium burns with a dazzling white flame.

Q14. What will happen when the white powder is added to the water.

Answer. When white powder (magnesium oxide) is added to the water it forms Magnesium hydroxide $[\text{Mg}(\text{OH})_2]$.

Q15. Does Magnesium hydroxide have any effect on litmus paper?

Answer. Yes, on testing Magnesium hydroxide with litmus paper, it turns red litmus to blue.

Q16. Why does Magnesium hydroxide turn red litmus blue?

Answer. Magnesium hydroxide is basic in nature and therefore, it changes red litmus to blue. It has no effect on blue litmus paper.

Q17. Is magnesium oxide acidic or basic in nature?

Answer. Magnesium oxide is basic in nature.

Q18. What precautions should be taken while performing the experiment?

Answer. Some precautions that need to be taken while performing the experiment are as follows-

- Sand paper should be used to clean the magnesium ribbon.
- While burning, hold the magnesium ribbon with tongs.
- Do not look directly at the bright light associated with burning Mg. Wear sunglasses.
- It is not safe to handle white powder or magnesium oxide.

Q19. List the materials required for the experiment.

Answer. Magnesium Ribbon, burner, tongs, watch glass, pH paper strip/red litmus paper.

Q20. Why is magnesium rubbed with sandpaper?

Answer. Magnesium is rubbed with sandpaper so as to remove any impurities present like rust, dust or greasy surface.

Q21. What type of reaction is the burning of magnesium ribbon?

Answer. The burning of magnesium ribbon is a combination reaction. This is because magnesium reacts with oxygen to form a single product magnesium oxide.

Q22. Is the reaction a chemical change or a physical change?

Answer. The reaction is a chemical change because a new product is formed.

Q23. What is the colour of magnesium metal?

Answer. The colour of magnesium metal is silvery white.

Q24. Will there be any change observed if the dry litmus paper is brought in contact with the ash of the magnesium ribbon?

Answer. No, there be no change observed if the dry litmus paper is brought in contact with the ash of the magnesium ribbon.