

Chemistry Practical Class 10 Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with Litmus solution (Blue / Red) Viva Questions with Answers

Q1. What is an acid?

Answer: Acids are the chemical species that liberate hydrogen ions when dissolved in water. Acids are sour in taste and have a pH value of less than 7.

Q2. What is a base?

Answer: Bases are the chemical species that liberate hydroxide ions when dissolved in water. Bases are bitter in taste and have a pH value of more than 7.

Q3. What happens when a NaOH solution encounters a red litmus solution?

Answer: NaOH is a strong base. It liberates hydroxide ions. When a NaOH solution encounters a red litmus solution, it turns into a blue litmus solution.

Q4. What happens when an HCl solution meets a red litmus solution?

Answer: HCl is a strong acid. It liberates hydrogen ions. No change is observed when an HCl solution meets a red litmus solution.

Q5. What happens when a NaOH solution encounters a blue litmus solution?

Answer: NaOH is a strong base. It liberates hydroxide ions. No change is observed when a NaOH solution encounters a blue litmus solution.

Q6. What happens when an HCl solution meets a blue litmus solution?

Answer: HCl is a strong acid. It liberates hydrogen ions. When an HCl solution meets a blue litmus solution, it turns into a red litmus solution.

Q7. Give examples of some strong bases?

Answer: Sodium hydroxide, potassium hydroxide, and lithium hydroxide are some examples of strong bases.

Q8. Give examples of some strong acids?

Answer: All mineral acids like hydrochloric acid, sulfuric acid, and nitric acid are examples of strong acids.

Q9. Hydrogen gas is neutral to the litmus solution. Explain why?

Answer: Hydrogen gas is neutral to the litmus solution because it is neither acidic nor basic in nature. Therefore it does not alter the blue or red litmus solution.

Q10. What are strong acids?

Answer: Those acids that ionise completely in an aqueous solution are known as strong acids.

Q11. What are strong bases?

Answer: Those bases that ionise completely in an aqueous solution are known as strong bases.

Q12. How does acid affect blue and red litmus solution?

Answer: An acid turns the blue litmus solution into red. However, it does not affect the red litmus solution.

Q13. How does base affect blue and red litmus solution?

Answer: A base turns the red litmus solution into the blue. However, it does not affect the blue litmus solution.

Q14. What happens when the milk of magnesia solution encounters a blue litmus solution?

Answer: The milk of magnesia is a magnesium hydroxide solution, which is basic in nature. It liberates hydroxide ions. When milk of magnesia solution encounters a red litmus solution, it turns into a blue litmus solution.

Q15. Dry litmus paper does not show any colour change when brought close to dry hydrochloric acid gas. Why?

Answer: Dry litmus paper does not show any colour change when brought close to dry hydrochloric acid gas because dry acid does not dissociate to give H^+ ions. Thus due to the unavailability of H^+ ions, dry litmus paper does not change its colour.