

Indicator

What is an Indicator?

- Indicators are weak acids or weak bases that show a change in colour as the concentration of Hydrogen ions in a solution changes or the pH of a solution changes.
- The indicators dissociate slightly in the water to form ions.
- Some examples of indicators are Litmus, methyl orange, phenolphthalein etc.

Some Common Indicators:

Indicator	Colour in Acid	Colour in Base
Methyl orange	Red	Yellow
Phenolphthalein	Colourless	Pink
Litmus	Red	Blue

Choice of Indicator

- The choice of an indicator is determined by the pH of the solution at the equivalence point.
- This is because acid-base indicators change colour within characteristic range of pH.

Titration	pH range	Appropriate Indicator	Colour in neutral medium
Strong acid- strong base	3.5 - 10	Litmus Methyl orange Phenolphthalein	Purple Orange Colourless
Strong acid — weak base	4	Methyl orange	Orange
Weak acid — strong base	8.6	Phenolphthalein	Colourless
Weak acid — weak base	pH changes slowly	No suitable indicator	

Thank You