

## Determination of Sulphuric Acid Concentration



### General Aim

Determination of concentration of sulphuric acid.

### Method

Acid- base titration.

### Learning Objectives (ILOs)

- Determine the concentration of sulphuric acid.
- Acquire the correct technique of titration.
- Carry out acid- base titration using phenolphthalein as indicator.

### Theoretical Background/Context

**Sample** is a solution of unknown concentration.

**Standard** is a solution of exactly known concentration.

Requirements of titrimetric reactions:

1. The reaction must be simple and expressed by a chemical equation.
2. A single reaction must occur between the sample and titrant.
3. The reaction must be instantaneous (rapid).
4. Suitable standard solution must be available.
5. The end point should be easily detected.

Types of quantitative reactions:

1. Neutralization reactions.
  - a. H<sub>2</sub>O formation.
  - b. Displacement: Formation of weak acid or weak base.
2. Complexometric reactions.
3. Redox reactions (Electron transfer).
4. Precipitometric reactions.

### Principle of Work

Sulphuric acid is a strong acid which can be determined directly using a strong base in the presence of any pH indicator.

