

PHARMACEUTICAL ANALYSIS – BP102T

UNIT : II ACID-BASE TITRATIONS AND NON-AQUEOUS TITRATIONS

CLASS:20

TOPIC: ESTIMATION OF EPHEDRINE HCl

Estimation of Ephedrine HCl

Ephedrine HCl is acting as a sympathomimetic drug and also used to treat asthma as a bronchodilator and also used as a hypotension during spinal anesthesia.

Principle:

- It is based upon non-aqueous acidimetry titration.
- The chloride ions in Ephedrine makes weakbase unable to accept proton properly, to strengthen the basic property add mercuric acetate.
- So, the chloride ions replaced with acetate ion.
- Acetate ions have higher tendency to accept proton which gives accurate end point when titrated against the acid like perchloric acid .
- Known amount of ephedrine hydrochloride is titrated with perchloric acid in glacial acetic acid and end point is detected by using methyl orange as an indicator.

Procedure:

- Weigh accurately 0.17 gm of Ephedrine HCl in conical flask.
- Add 10ml of mercuric acetate in a dried conical flask and dissolve them.
- To this add 50 ml of acetone and add 2 to 3 drops of methyl orange indicator
- Titrate the contents of the conical flask with 0.1 M perchloric acid which is taken in burette until it reaches the end point.

- Record the reading of burette and repeat the titration three times to get precise readings.
- Take mean of them and calculate percentage purity of Ephedrine hydrochloride.
- Repeat the titration similarly according to above procedure without ephedrine hydrochloride for blank titration.

Equivalent factor:- Each ml of 0.1M HClO_4 = 0.0207gm of Ephedrine HCl.