

EXPERIMENT NO 11

OBJECT: To perform a limit test for sulphate in a given sample of sodium dihydrogen phosphate dihydrate.

REFERENCES

Singh H.R., Kapoor V.K. "Practical Pharmaceutical chemistry", Vallabh Prakashan, Ed Ist, 2008, pp 57.

REQUIREMENTS

Chemical required: sodium dihydrogen phosphate dihydrate, ethanol, potassium sulphate, 5M acetic acid, HCl, and Barium chloride

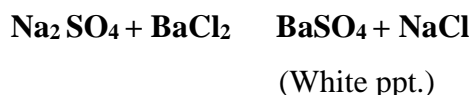
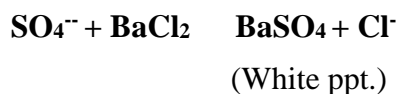
Apparatus required: Measuring cylinder, glass rod, pipette and Nessler's cylinder, etc.

THEORY

Limit test are quantitative or semi-quantitative test designed to identify and control the small quantity of impurities which are likely to be present in the substance

This test involves the reaction of Barium chloride with soluble sulphate to form the precipitate of Barium sulphate which is insoluble in dilute hydrochloric acid. The Barium sulphate precipitate is white in color.

REACTION



PROCEDURE

STANDARD

Take 1mL of 0.1089 w/v of Na₂SO₄ or K₂SO₄ as per I.P. in Nessler cylinder. Add 2 mL of dilute Hydrochloric acid. Makeup the volume up to 45 ml with distilled water. Add in this solution of 5 mL of Barium sulphate reagent Stirrer the solution with a glass rod and allow to stand for 5 minutes.

TEST

Dissolve the specific quantity of test substances in 10 mL of tap water. Add 2 mL of dilute Hydrochloric acid. Makeup the volume up to 45 ml with distilled water. Add in this solution of 5 mL of Barium sulphate reagent Stirrer the solution with a glass rod and allow to stand for 5 minutes.

PHARMACEUTICAL CHEMISTRY

OBSERVATION

The opalescence of the test solution is less/more than the standard solution. If the opalescence of the test solution has been less than the standard opalescence, the sample will pass the limit test.

RESULT

A limit test for sulphate was performed.