EXPERIMENT NO -13

OBJECT: To perform the identification test of ammonium chloride.

REFERENCES

Parle A., "Pharmaceutical Chemistry 1 Laboratory Manual", CBS Publishers and Distributors Pvt. Ltd., Ed Ist, 2008, pp 59.

REQUIREMENTS

Chemical required: Ammonium chloride, sodium hydroxide, red litmus paper, sodium cobalt nitrite, nitric acid, silver nitrate solution, dilute ammonia solution, potassium dichromate, sulphuric acid, diphenyl carbazide solution.

Apparatus required: test tubes, test tube stands, test tube holders, glass rod.

THEORY

Any process that can provide a qualitative determination of the ions present in a simple inorganic compound is based upon knowledge of acid/base chemistry, redox chemistry, and solubility. In this regard, the identification of a single pure compound is therefore very much simpler than the identification of a mixture. This experiment deals only with the identification of simple compounds, ie those that contain only one cation and one anion.

PROCEDURE

REACTIONS OF AMMONIUM IONS

S.NO	TEST	OBSERVATION	INFERENCE
1	Take a few mg of sample and add sodium hydroxide solution. Heat. Bring moist red litmus paper near the mouth of the test tube.		
2	Dissolve 10 mg of sample in water. Add 1ml of freshly prepared 10% w/v solution of sodium cobalt nitrite.		

REACTION 0F CHLORIDES

S. NO	TEST	OBSERVATION	INFERENCE
1	Dissolve 2mg of sample in 2ml of water. Acidify with dilute nitric acid. Add 0.5 ml of silver nitrate solution. Shake and allow to stand add ammonia + nitric acid.		

2	Mix 10 mg sample with 0.2 gm of potassium dichromate in a test tube.Add 1 ml of sulfuric acid. Place a filter paper strip, moistened with 0.1 ml of diphenyl carbazide solution, over the mouth of the test tube.		

RESULT: An identification test of ammonium chloride was performed.