GOVT. POLYTECHNIC, LOHAGHAT
PHARMACY FIRST YEAR
SUB - PHARMACEUTICAL CHEMISTRY-I
CHAPTER - LIMIT TEST

LIMIT TEST -

Limit test is defined as quantitative or semi quantitative test designed to identify and control small quantities of impurity which is likely to be present in the substance.

Limit test of Chloride →

Principle →

Limit test of Chloride is based on the reaction of soluble chloride with silver Nitrate in presence of dilute nitric acid to form Silver chloride, which appears as solid particles (opalescence) in the solution.

$$NaCl + AgNO_3 \longrightarrow AgCl + NaNO_3$$

Requirement → Nessler cylinder, Silver Nitrate, Nitric acid, Sodium chloride (0.0584% w/v), Glass rod, Analytical Balance.

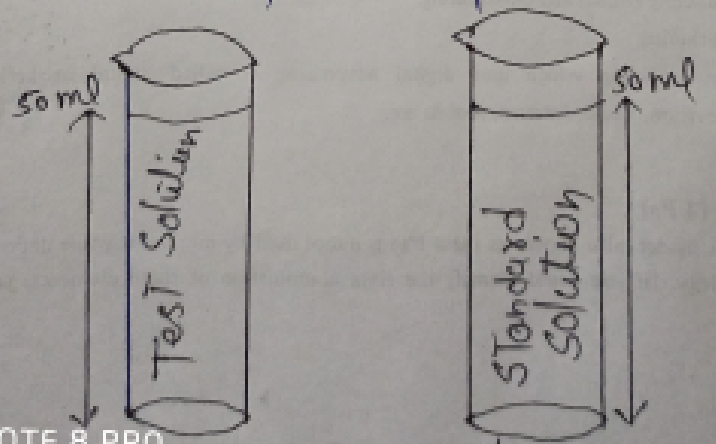
Procedure →

for Test Sample →

Specific weight of Compound is dissolved in water or Solution is prepared as directed in the Pharmacopoeia and transfered in Nessler Cylinder. Add 1 ml of Nitric acid. Dilute 50 ml in Nessler cylinder add 1 ml $AgNO_3$ Solution, Keep aside for 5 Minute, observe the opalescence / Turbidity.

for Standard Compound –

Take 1 ml of 0.0584% w/v Solution of Sodium chloride (NaCl) in Nessler Cylinder. Add 1 ml of Nitric acid. Dilute to 50 ml in Nessler cylinder. Add 1 ml of $AgNO_3$ Solution, Keep a side for 5 Minute, observe the opalescence / Turbidity



(Nessler cylinder)

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Observation :-

The opalescence Produce in Sample Reaction should not be greater Than Standard Solution. If opalescence Produces in Sample Solution is less Than the Standard solution, the Sample will Pass the limit test of chlorid

Reason :- Nitric acid is added in the limit test of chloride to make solution acidic and helps Silver chloride Precipitate to make Solution turbid at the end of Process.

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