

→ LIMIT TEST :

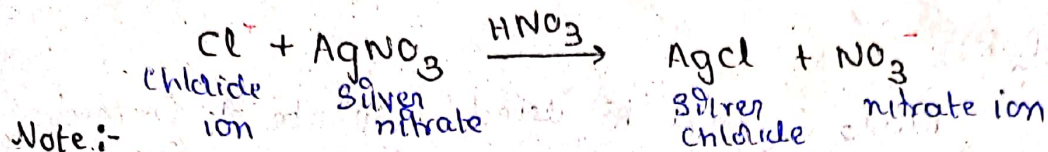
Limit test is defined as Quantitative and Semi Quantitative test designed to Identify and Control of Small Quantities of Impurities which are likely to be present in the Substance

* Limit test of Chlorides :

Principle :

Limit test of Chlorides is based on

Interaction of Chloride with Silver nitrate in the presence of Nitric acid to obtain Silver Chloride
Here you have to compare the turbidity (cloudy) between the test and the standard.



Note:-
 HNO_3 : it is used to prevent the turbidity of other radicals provide acidic condition for the reaction
provide Common Ion effect

AgNO_3 : it is used to detect halogens

procedure :- These are performed in the nessler cylinder

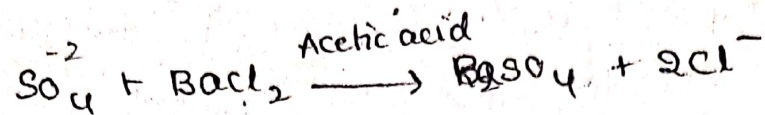
Test	Standard
→ 1 gm of Sample + 10 ml of distilled water	→ 1 ml of 0.05845 % of NaCl + 9 ml of distilled water
→ 1 ml of HNO_3 and make up to 50 ml of with distilled water	→ 1 ml of HNO_3 & make up to 50 ml with distilled water
→ 1 ml of 5% Silver nitrate (AgNO_3)	→ 1 ml of 5% of AgNO_3
→ Stir with glass rod and wait for 5 minutes	→ Stir with glass rod and wait for 5 min

Limit test of Sulphate (SO_4^{2-})

principle :-

The limit test of Sulphate is based on Interaction between Sulphate (SO_4^{2-}) and Barium Chloride in the presence of acetic acid to give Barium Sulphate which produces turbidity.

Here you will compare the turbidity between the test and standard



Note :-

BaCl_2 : used to detect sulphate & immediately cause precipitation

Alcohol : used to detect turbidity

K_2SO_4 : Increase sensitivity

Acetic acid : to prevent turbidity of other radicals

procedure: Test

- 1 ml of 25% BaCl_2 w/v
- 1.5 ml of Ethanolic Sulphate
- 1 gm of Sample and make upto 50 ml with distilled water
- 0.15 ml of 5M acetic acid
- make upto 50 ml with + stir with glass rod and wait for 5 min

Standard

- 1 ml of 25% BaCl_2 solution w/v
- 1.5 ml of Ethanolic Sulphate
- 15 ml of 0.1089% K_2SO_4 w/v
- 0.15 ml of 5M acetic acid
- make up to 50 ml with water + stir with glass rod & wait for 5 min

Inference :

If turbidity is low in the test then the limit test is passed