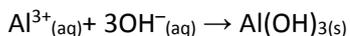


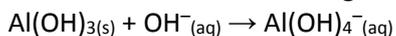
Answer on Question#37435 - Chemistry - Inorganic Chemistry

The Al cations identification is based on formation of white gel-like precipitate of Al(OH)_3 :

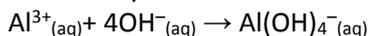


Aluminium hydroxide is formed as a result of interaction with hydroxyl ions (e.g. sodium hydroxide solution). That is why pH should be basic ($\text{pH} > 7$).

However, addition of more sodium hydroxide solution results in aluminium precipitate dissolution, due to the following reaction



That is why in case of too basic pH ($\text{pH} > 9$) the precipitate is not formed:



and the Al cations, thus, cannot be identified.

That is why only specific $\text{pH} = 9$ should be used.