

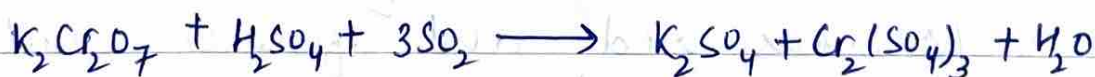
26.08.24

Q:- Give a chemical test to distinguish between the following gases:-

a) H_2 & CO_2 :- Hydrogen gas is neutral to litmus whereas CO_2 turns blue litmus red.

b) H_2 and O_2 :- H_2 gas burns with a pale blue flame when a burning splinter is brought near it whereas O_2 rekindles a glowing wooden splinter.

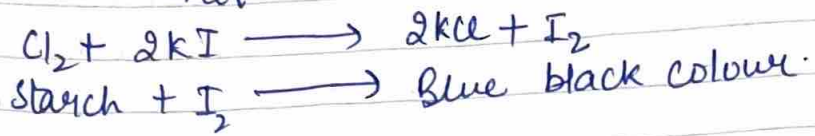
c) CO_2 and SO_2 :- CO_2 has no effect on acidified $KMnO_4$ and acidified $K_2Cr_2O_7$ solution whereas SO_2 turns acidified $KMnO_4$ from pink to clear colourless and acidified $K_2Cr_2O_7$ from orange to clear green.



d) HCl and H_2S :- Rod. dipped in NH_3 solution is brought near the mouth of two gases. HCl gives dense white fumes of NH_4Cl and hence can be distinguished from H_2S

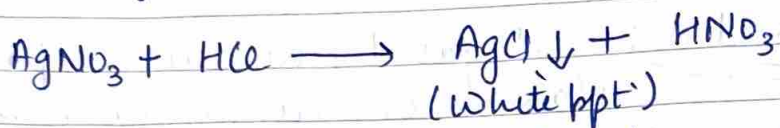


e) HCl & Cl₂:- Cl₂ turns moist starch iodide paper blue black whereas HCl does not.

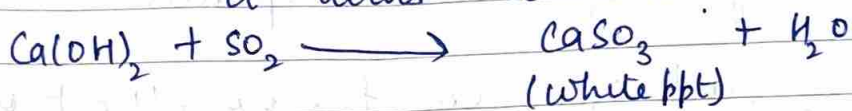


f) NH₃ and HCl:- NH₃ turns Nessler's reagent from colourless to pale brown.

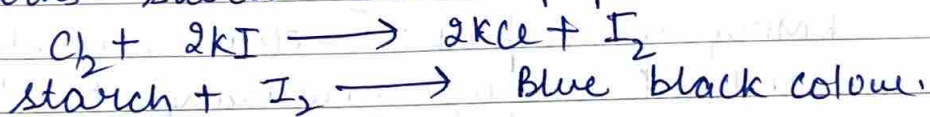
HCl shows no action with Nessler's reagent. It forms a curdy white ppt. on passage through AgNO₃ solution.



g) SO₂ and Cl₂:- On passing SO₂ through lime water it turns lime water milky.



Cl₂ does not turn lime water milky. It turns starch iodide paper blue black.



h) NH₃ & SO₂:- NH₃ turns red litmus blue whereas SO₂ turns wet blue litmus red and finally bleaches it though the bleaching is temporary.