

CH-9 (Practical Work)

Recognition And Identification Of Gases

1. Hydrogen

Recognition and Identification of gas.

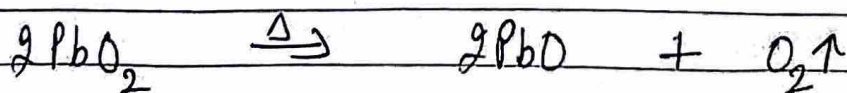
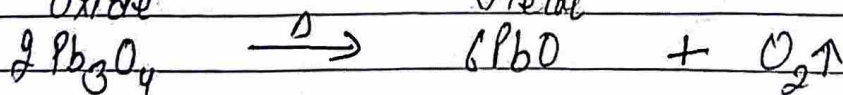
1. The gas evolved is colourless and odourless
2. It is neutral to litmus.
3. When a burning splint is brought near it pure hydrogen burns with a pale blue flame

$$2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$$
4. Hydrogen mixed with air burns with a pop sound when a burning taper is brought near it.

2. Oxygen

Preparation :- Heat heavy metallic oxides

Heavy metal oxide $\xrightarrow{\Delta}$ Metal oxide / Metal + Oxygen



(P.T.O.)

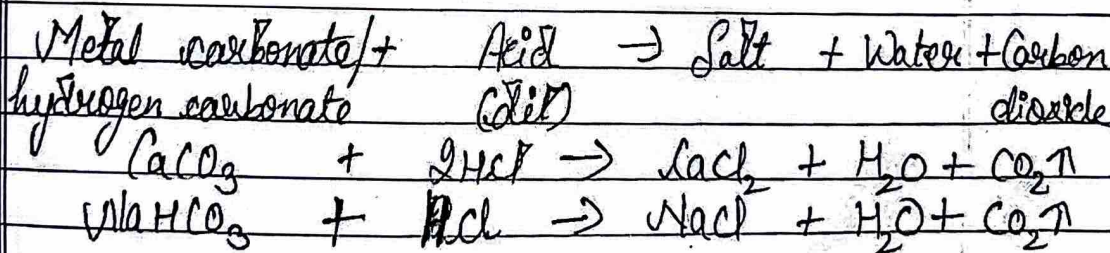
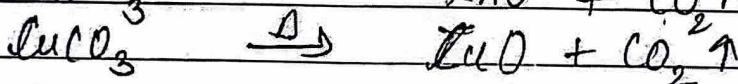
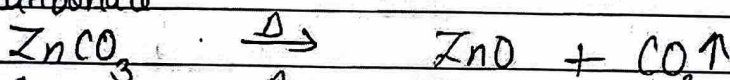
Recognition and Identification of Gas

1. Gas is colourless, odourless and neutral to litmus.
2. It rekindles a glowing wooden splinter.
3. The gas is absorbed in colourless alkaline solution of pyrogallol and turns it dark brown.

3 Carbon Dioxide

Preparation:- Heat metallic carbonate (except sodium carbonate & potassium carbonate) or add dilute acid to any carbonate or hydrogen carbonate.

Metallic carbonate $\xrightarrow{\Delta}$ Metal oxide + Carbon dioxide

Recognition & Identification of Gas

1. The gas is colourless and odourless.
2. It turns moist blue litmus faint red.
3. When the gas is passed through lime water, it turns milky due to the formation of white ppt calcium carbonate.

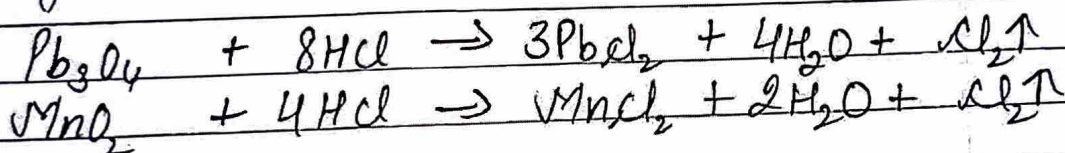


4. The gas has no effect on filter paper dipped in acidified $\text{K}_2\text{Cr}_2\text{O}_7$ or KMnO_4 .

4. Chlorine

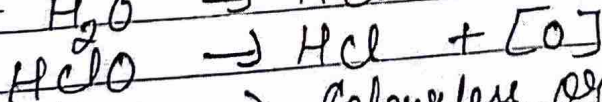
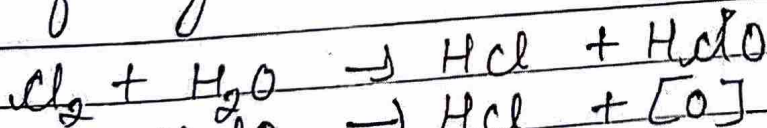
Preparation: Add conc. HCl to oxidizing agents like Pb_3O_4 , PbO_2 , MnO_2 , etc. & heat.

Oxidizing agent + Conc HCl $\rightarrow$ Metal chloride + Water + Chlorine



Recognition & Identification of Gas

- The gas is greenish yellow with a sharp pungent choking odour.
- It turns moist blue litmus paper red and finally bleaches, i.e. decolourizes it.



Colouring matter + $[\text{O}] \rightarrow$ Colourless or bleached product.

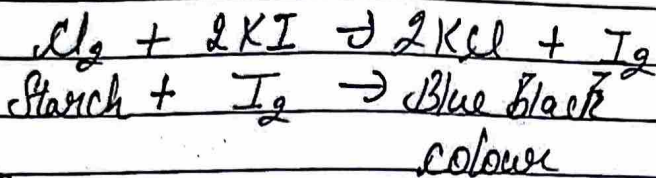
CLASS - IX

SUBJECT - CHEMISTRY

CHAPTER - 9

TEACHER - ANAMIKA

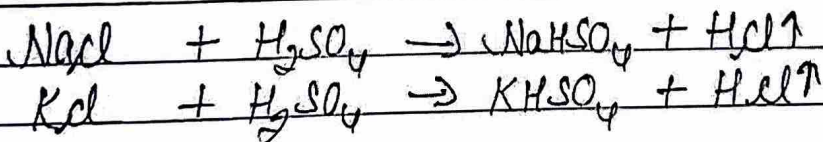
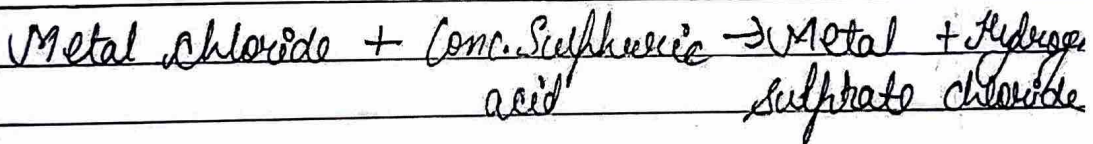
3. It turns moist starch iodide paper (KI + starch solution) blue black.



4. Pass the gas through silver nitrate solution, a white ppt (of silver chloride) is formed.

5. Hydrogen chloride

Preparation Add conc. H_2SO_4 to metal chlorides like NaCl, KCl etc. and heat



Recognition & Identification of Gas

1. The gas is colourless & has a pungent choking odour.
2. The gas turns moist blue litmus paper red.
3. If a rod dipped in ammonia solution is brought near the gas, dense white fumes of ammonium chloride are formed (P.T.O.)

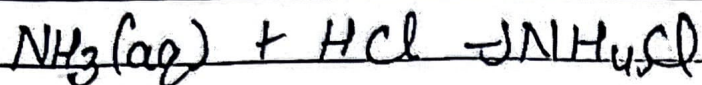
CLASS- IX

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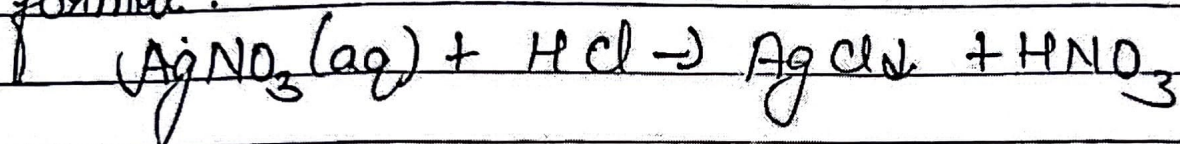
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CHAPTER- 9

TEACHER- ANAMIKA



4. When the gas is passed through silver nitrate solution, a white ppt of silver chloride is formed.



The ppt dissolves in excess NH_4OH

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