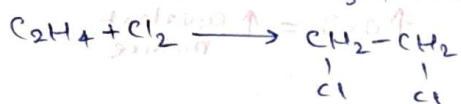
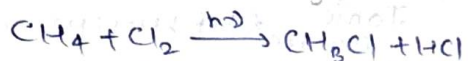
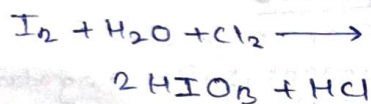
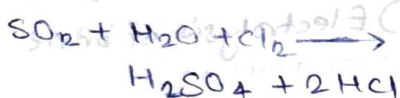
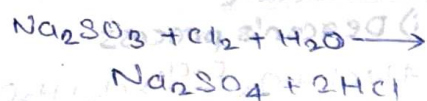
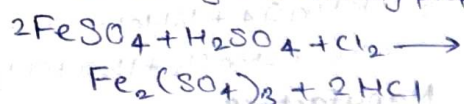


Reaction with hydrochloric acid



- Chlorine water on standing loses its yellow colour due to the formation of HCl, HOCl. HOCl formed gives nascent oxygen which is responsible for oxidising & bleaching property.



Coloured Substance + [O] → Colourless Substance

Hydrogen Chloride

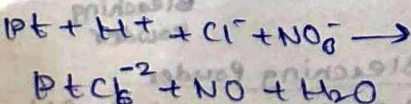
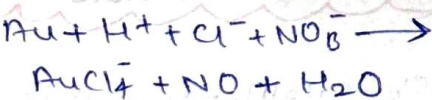
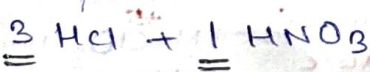
Preparation



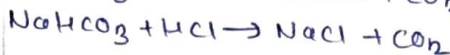
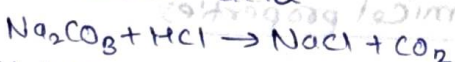
Properties

- Colourless, pungent
- Liquidifies to a colorless liquid & white crystal solid.
- Extremely soluble in water
- $\text{NH}_3 + \text{HCl} \longrightarrow \text{NH}_4\text{Cl}$ (white fumes)

Aqua regia is used to dissolve Au, Pt



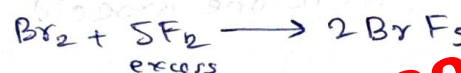
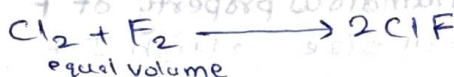
- Decomposes salts of weaker acid



Halic (I) (Hypohalous)	HOX Hypohalous	HOCl Hypochlorous	HOBr Hypobromous	HOI Hypoiodous
Halic (III) (Halous)	-	HOClO chlorous	-	-
Halic (V) (Hallic)	-	HOClO ₂ chloric	HOBrO ₂ bromic	HOIO ₂ iodic
Halic (VII) (Perhalic)	-	HOClO ₃ perchloric	HOBrO ₃ perbromic	HOIO ₃ periodic

Interhalogen Compounds

Preparation



Properties

- Covalent & diamagnetic
- Physical properties are intermediate between those of constituent halogen except M.P/B.P.
- M.P/B.P are usually higher than expected

Volatile solids & liquids except ClF which is gas

Bond strength



except F-F

Interhalogen are more reactive than halogen except fluorine.



Shape



XX'_5 : square pyramidal

XX'_7 : pentagonal bipyramidal

- ClF₃ and BrF₃ are used for the production of UF₆ in the enrichment of ²³⁵U

