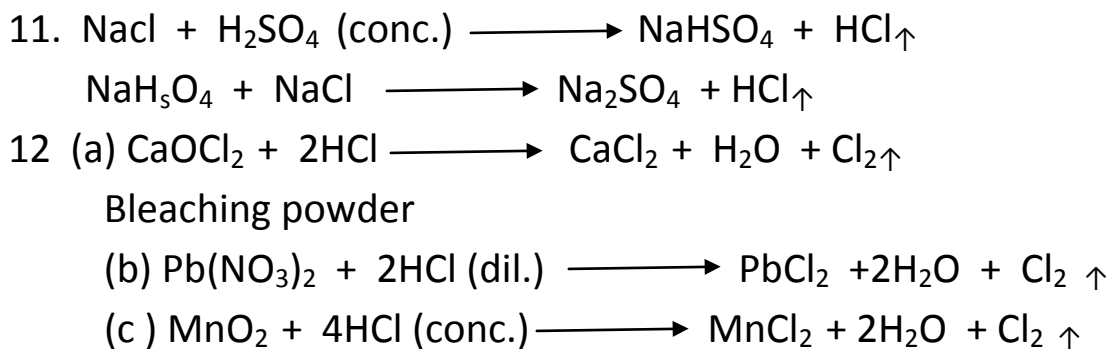


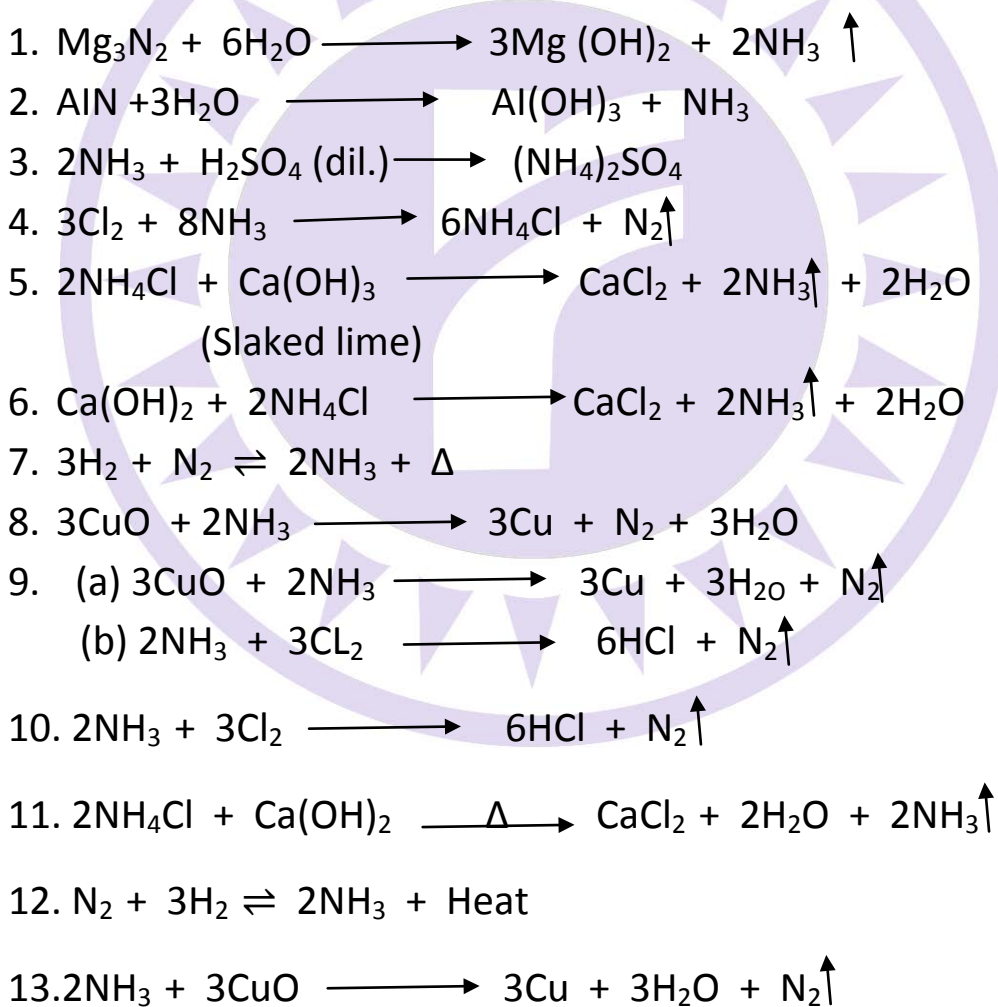


CHAPTER -1 HYDROGEN CHLORIDE & HYDROCHLORIC ACID

- $\text{Na}_3\text{CO}_3 + 2\text{HCl (dil.)} \longrightarrow 2\text{NaCl} + \text{H}_2\text{O} + \text{CO}_2\uparrow$
- $\text{Ca(OH)}_2 + \text{Cl}_2 \longrightarrow \text{CaOCl}_2 + \text{H}_2\text{O}$
- $\text{Pb}_3\text{O}_4 + 8\text{HCl (conc.)} \longrightarrow 2\text{PbCl}_2 + 4\text{H}_2\text{O} + \text{Cl}_2\uparrow$
- $\text{Na}_2\text{SO}_3 + 2\text{HCl} \longrightarrow 2\text{NaCl} + \text{SO}_2\uparrow$
- (a) $\text{NaCl} + \text{H}_2\text{SO}_4 \longrightarrow \text{NaHSO}_4 + \text{HCl}$
(b) $2\text{NaCl} + \text{H}_2\text{SO}_4 \longrightarrow \text{Na}_2\text{SO}_4 + 2\text{HCl}$
- (a) $\text{Pb}_2\text{O}_4 + 8\text{HCl} \longrightarrow 3\text{PbCl}_2 + 4\text{H}_2\text{O} + \text{Cl}_2\uparrow$
(b) $\text{Mg} + 2\text{HCl} \longrightarrow \text{MgCl}_2 + \text{H}_2\uparrow$
- (a) $2\text{HCl (dil.)} + \text{Na}_2\text{S}_2\text{O}_3 \longrightarrow 2\text{NaCl} + \text{H}_2\text{O} + \text{SO}_2 + \text{S}$
(b) $2\text{HCl (dil.)} + \text{Pb(NO}_3)_2 \longrightarrow \text{PbCl}_2 + 2\text{HNO}_3$
- (a) $\text{Fe} + 2\text{HCl} \longrightarrow \text{FeCl}_2 + \text{H}_2\uparrow$
(b) $\text{NaHCO}_3 + \text{HCl} \longrightarrow \text{NaCl} + \text{H}_2\text{O} + \text{CO}_2\uparrow$
(c) $\text{FeS} + 2\text{HCl} \longrightarrow \text{FeCl}_2 + \text{H}_2\text{S}\uparrow$
Iron (II) Chloride
Sulphide
(d) $\text{Na}_2\text{S}_2\text{O}_3 + 2\text{HCl} \longrightarrow 2\text{NaCl} + \text{H}_2\text{O} + \text{SO}_2\uparrow + \text{S}$
Sodium Thiosulphate
- (a) $\text{CuO} + 2\text{HCl (dil.)} \longrightarrow \text{CuCl}_2 + \text{H}_2\text{O}$
(b) $\text{MnO}_2 + 4\text{HCl (conc.)} \longrightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2\uparrow$
Manganes (IV) Oxide
- (a) $\text{NaCl} + \text{H}_2\text{SO}_4 \text{ (conc.)} \longrightarrow \text{NaHSO}_4 + \text{HCl}\uparrow$
(b) $\text{NH}_3\text{(g)} + \text{HCl (g)} \longrightarrow \text{NH}_4\text{Cl (s)}$



CHAPTER-2 AMMONIA



CHAPTER-3 NITRIC ACID

- $2\text{Pb}(\text{NO}_3)_2 \longrightarrow 2\text{PbO} + 4\text{NO}_2 + \text{O}_2 \uparrow$
- $3\text{Cu} + 8\text{HNO}_3(\text{dil.}) \longrightarrow 3\text{Cu}(\text{NO}_3)_2 + 4\text{H}_2\text{O} + 2\text{NO}$
- $\text{S} + 6\text{HNO}_3(\text{conc.}) \longrightarrow \text{H}_2\text{SO}_4 + 6\text{NO}_2 + 2\text{H}_2\text{O}$
- $\text{Cu} + 4\text{HNO}(\text{conc.}) \longrightarrow \text{Cu}(\text{NO}_3)_2 + 2\text{NO}_2 \uparrow + 2\text{H}_2\text{O}$
- $4\text{HNO}_3 \xrightarrow{\Delta} 2\text{H}_2\text{O} + 4\text{NO}_2 \uparrow + \text{O}_2 \uparrow$
- $\text{Cu} + 4\text{HNO}_3(\text{conc.}) \longrightarrow \text{Cu}(\text{NO}_3)_2 + 2\text{NO}_2 + 2\text{H}_2\text{O}$
- $\text{KNO}_3 + \text{H}_2\text{SO}_4(\text{conc.}) \longrightarrow \text{KHSO}_4 + \text{HNO}_3$
- (a) $\text{Cu} + 4\text{HNO}_3(\text{conc.}) \longrightarrow \text{Cu}(\text{NO}_3)_2 + 2\text{H}_2\text{O} + 2\text{NO}_2 \uparrow$
(b) $\text{CuO} + 2\text{HNO}_3(\text{dil.}) \longrightarrow \text{Cu}(\text{NO}_3)_2 + \text{H}_2\text{O}$

CHAPTER-4 SULPHURIC ACID

- $\text{Cu} + 2\text{H}_2\text{SO}_4 \longrightarrow \text{CuSO}_4 + \text{SO}_2 + 2\text{H}_2\text{O}$
- $\text{Pb}(\text{OH})_2 + \text{H}_2\text{SO}_4(\text{dil.}) \longrightarrow \text{PbSO}_4 + 2\text{H}_2\text{O}$
- $\text{Zn} + \text{H}_2\text{SO}_4(\text{dil.}) \longrightarrow \text{ZnSO}_4 + \text{H}_2 \uparrow$
- (a) $\text{H}_2\text{SO}_4(\text{dil.}) + \text{BaCl}_2 \longrightarrow \text{BaSO}_4 + 2\text{HCl}$
(b) $\text{H}_2\text{SO}_4(\text{dil.}) + \text{Na}_2\text{S} \longrightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{S}$
- (a) $2\text{KHCO}_3 + \text{H}_2\text{SO}_4(\text{dil.}) \longrightarrow \text{K}_2\text{SO}_4(\text{aq.}) + 2\text{H}_2\text{O}(\text{l}) + \text{CO}_2$
(b) $\text{NaNO}_3 + \text{H}_2\text{SO}_4(\text{conc.}) \longrightarrow \text{NaHSO}_4(\text{aq.}) + 2\text{HNO}_3(\text{aq})$

CHAPTER-5 ORGANIC CHEMISTRY

- $\text{CH}_3\text{COOH} + \text{C}_2\text{H}_5\text{OH} \longrightarrow \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$
Ethyl ethanoate (ester)
- $2\text{C}_2\text{H}_6 + 7\text{O}_2 \longrightarrow 4\text{CO}_2 + 6\text{H}_2\text{O}$
- $\text{C}_2\text{H}_4 + \text{H}_2 \longrightarrow \text{C}_2\text{H}_6$
- (a) $\text{C}_2\text{H}_5\text{Cl} + \text{KOH (aq)} \longrightarrow \text{C}_2\text{H}_5\text{OH} + \text{KCl}$
(b) $\text{CH}_3\text{COONa} + \text{NaOH} \longrightarrow \text{CH}_4 + \text{Na}_2\text{CO}_3$
(c) $\text{C}_2\text{H}_5\text{OH} \longrightarrow \text{CH}_3\text{CHO} \longrightarrow \text{CH}_3\text{COOH}$
(d) $\text{CaC}_2 + 2\text{H}_2\text{O} \longrightarrow \text{Ca(OH)}_2 + \text{C}_2\text{H}_2$
(e) $2\text{C}_2\text{H}_5\text{OH} + 2\text{Na} \longrightarrow 2\text{C}_2\text{H}_5\text{ONa} + \text{H}_2 \uparrow$
- (a) $\text{C}_2\text{H}_4 + \text{H}_2\text{O} \longrightarrow \text{C}_2\text{H}_5\text{OH}$
(b) $\text{C}_2\text{H}_5\text{Br} + \text{NaOH(aq)} \longrightarrow \text{C}_2\text{H}_5\text{OH} + \text{NaBr}$
(c) $\text{CaC}_2 + 2\text{H}_2\text{O} \longrightarrow \text{Ca(OH)}_2 + \text{C}_2\text{H}_2$
- (a) $\text{C}_2\text{H}_6 + \text{O}_2 \longrightarrow \text{CH}_3\text{CHO} + \text{H}_2\text{O}$
(b) $\text{CH}_3\text{COONa} + \text{NaOH} \longrightarrow \text{Na}_2\text{CO}_3 + \text{CH}_4$
(c) $\text{C}_2\text{H}_5\text{OH} \longrightarrow \text{C}_2\text{H}_4 + \text{H}_2\text{O}$
- (a) $\text{C}_2\text{H}_5\text{COONa} + \text{NaOH} \longrightarrow \text{C}_2\text{H}_6 + \text{Na}_2\text{CO}_3$
(b) $\text{CH}_3\text{CH}_2\text{I} + \text{KOH (alc.)} \longrightarrow \text{C}_2\text{H}_4 + \text{KI} + \text{H}_2\text{O}$
(c) $\text{CaC}_2 + 2\text{H}_2\text{O} \longrightarrow \text{C}_2\text{H}_2 + \text{Ca(OH)}_2$
(d) $\text{CH}_3\text{I} + \text{KOH (aq)} \longrightarrow \text{C}_2\text{H}_3\text{OH} + \text{KI}$
- $\text{C}_2\text{H}_5\text{OH} \rightleftharpoons \text{C}_2\text{H}_4 + \text{H}_2\text{O}$
- $2\text{C}_2\text{H}_6 + 7\text{O}_2 \longrightarrow 4\text{CO}_2 + 6\text{H}_2\text{O} + \text{Heat}$
- (a) $\text{C}_2\text{H}_5\text{OH} + \text{H}_2\text{SO}_4 \longrightarrow \text{C}_2\text{H}_5\text{HSO}_4 + \text{H}_2\text{O}$

