

Preparation for CO₄

- Electrolytes

- Acids (HX) - HCl
- Bases (YOH) – Mg(OH)_2
- Salts (YX) – MgCl_2
- Organic acids (-COOH) – $\text{C}_3\text{H}_7\text{COOH}$

- Nonelectrolyte

- Gases (N_2 , O_2)
- Elements (S, Ar)
- Organic compounds(sugar, alcohols)
- Insoluble compounds (CuO , Al(OH)_3)
- Oxides (CO_2 , H_2O)

Classify the compounds

PbS

$\text{C}_5\text{H}_{11}\text{COOCH}_3$

$\text{C}_8\text{H}_{17}\text{COOH}$

NH_3

RbOH

LiOH

H_3PO_4

$\text{H}_2\text{CR}_2\text{O}_7$

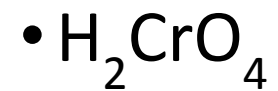
CuSO_4

LiF

F_2

CO

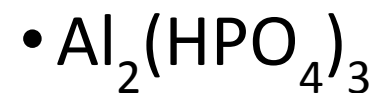
Write dissociation of the compounds



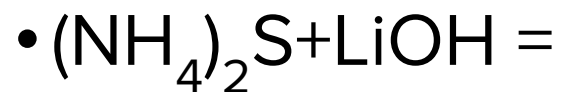
Write dissociation of the compounds

- $\text{Mg}(\text{OH})_2$
- MgOHCl

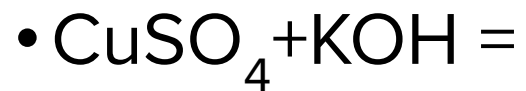
Write dissociation of the compounds



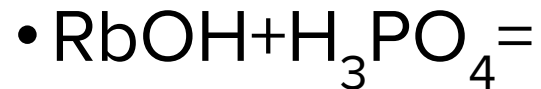
Finish the reactions, write ionic and net ionic equations



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Chemical properties of acids

- Acid + Active Metal \rightarrow Salt + Hydrogen

- $\text{H}_2\text{SO}_4 + \text{K} =$

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- $\text{H}_3\text{PO}_4 + \text{Ba} =$

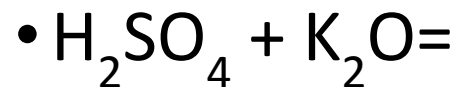
Chemical properties of acids

Acid + Basic Oxide \rightarrow Salt + Water

• $\text{H}_3\text{PO}_4 + \text{BaO} =$

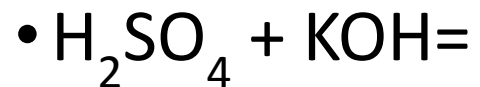
Chemical properties of acids

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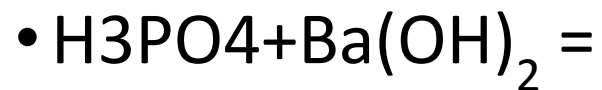
Chemical properties of acids

Acid + Base \rightarrow Salt + Water



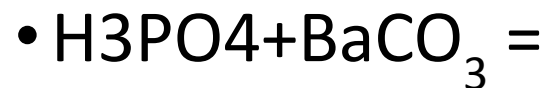
Chemical properties of acids

Acid + Base \rightarrow Salt + Water



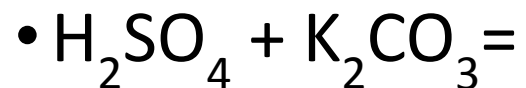
Chemical properties of acids

Acid + Carbonate \rightarrow Salt + Carbon dioxide + Water



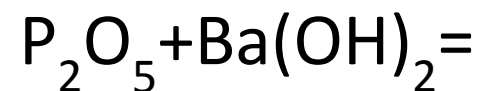
Chemical properties of acids

Acid + Carbonate \rightarrow Salt + Carbon dioxide + Water



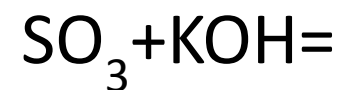
Chemical properties of bases

Base + Acidic Oxide \rightarrow Salt + Water



Chemical properties of bases

Base + Acidic Oxide \rightarrow Salt + Water



Chemical properties of salts

- Salt of 1st Metal + 2nd Metal \rightarrow Salt of 2nd Metal + 1st Metal
- $\text{Mg}(\text{NO}_3)_2 + \text{K} =$

Li, K, Ba, Ca, Na, Mg, Al, Mn, Zn, Cr, Fe, Co, Sn, Pb, H₂, Cu, Hg, Ag, Au

Chemical properties of salts

- Salt of 1st Metal + 2nd Metal \rightarrow Salt of 2nd Metal + 1st Metal
- $\text{Mg}(\text{NO}_3)_2 + \text{Fe} =$

Li, K, Ba, Ca, Na, Mg, Al, Mn, Zn, Cr, Fe, Co, Sn, Pb, H₂, Cu, Hg, Ag, Au

Hydrolysis

- Finish the reactions and determine the medium of the solutions
- $\text{Mg}(\text{NO}_3)_2 + \text{H}_2\text{O} =$
- $\text{K}_2\text{SO}_4 + \text{H}_2\text{O} =$
- $\text{Ba}_3(\text{PO}_4)_2 + \text{H}_2\text{O} =$

What volume of hydrogen gas is produced when 14 g of zinc metal reacts with 14 g of sulfuric acid solution? Determine the mass left of excess reagent.

- Reaction goes according this equation **$A+B = 2C$** . *Initial concentration of substance A is 0.56 mol/l , after 20 s becomes 0,25mol/l . Calculate average rate of the reaction*

- Calculate the rate of the reaction if temperature decreases from 45°C till 25°C . And the temperature coefficient is 3

- Write the kinetic equations :
- A) $\text{S(s)} + \text{O}_2 \text{ (g)} = \text{SO}_2 \text{ (g)}$
- Б) $2\text{SO}_2 \text{ (g)} + \text{O}_2 \text{ (g)} = 2\text{SO}_3 \text{ (l)}$

- How would the rate of the reaction changed if pressure decreased 4 times:
- $\text{S (s)} + \text{O}_2 \text{ (g)} = \text{SO}_2 \text{ (g)}$

- How would the rate of the reaction changed if pressure increased 2 times:
- $2\text{SO}_2 (\text{g}) + \text{O}_2 (\text{g}) = 2\text{SO}_3 (\text{g})$