

- 1. Write formulae for the Reactants and Products**
- 2. Balance the equation**
- 3. Will the reaction go to completion**

Hydrochloric Acid and Cobalt III Nitrate

Sodium Dichromate + Lead (II) Nitrate

Ammonium Dichromate [Heated] -> Chromium III Oxide + Nitrogen + Water

Ammonia + Oxygen -> NO + HOH

Calcium + Water -> Bubbles

Methane + Oxygen -> Flame

Zinc + HCl ->

Magnesium Metal and Water ->

Iron III Oxide + Nitric Acid -> Iron III Nitrate + Water

Hydrogen Sulfide gas + Lead II Nitrate

Iron III Chloride + Potassium Hydroxide

Lead II Acetate + Potassium Iodide

Lithium Oxide + Water ->

Antimony Metal and Chlorine Gas ->

Iron II Sulfide + Hydrochloric Acid ->

Aluminum Metal and Copper II Oxide ->

Ammonium Chloride + Potassium Hydroxide

Hydrogen Sulfide + Chlorine Gas ->

Lithium Hydroxide + Carbon Dioxide

Potassium Carbonate + Nitric Acid ->

Sodium Chloride + Sulfuric Acid ->

Sodium Sulfate + Calcium Chloride ->

Calcium Hydroxide + Hydrochloric Acid ->

Sodium Hydroxide + Phosphoric Acid ->

Sodium Bicarbonate -> Decomposition with heat

Barium Nitrate + Sodium Chromate ->

Lead II Chloride + Potassium Sulfate ->

$\text{Na}_2\text{SO}_4 + \text{KCl}$

$\text{Ba}(\text{NO}_3)_2 + \text{NaCl}$

$\text{Na}_2\text{S} + \text{Cu}(\text{NO}_3)_2$

$2\text{NH}_4 + \text{Pb}(\text{NO}_3)_2$

Silver Nitrate + Sodium Chromate

Nickel II Nitrate + Potassium Carbonate

Lead (II) Nitrate and Potassium Iodide

Hydrobromic Acid and aq Sodium

ANSWERS

Hydrochloric Acid and Cobalt III Nitrate -> Blue

HCl + Cobalt III Nitrate -> Blue

Sodium Dichromate + Lead (II) Nitrate -> Solid

Ammonium Dichromate -> Chromium III Oxide + Nitrogen + Water

$(\text{NH}_4)_2 \text{Cr}_2 \text{O}_7 \rightarrow \text{Cr}_2 \text{O}_3 + \text{N}_2 + \text{HOH}$

Ammonia + Oxygen -> NO + HOH

Calcium + Water -> Bubbles

Methane + Oxygen -> Flame

Zinc + HCl ->

Magnesium Metal and Water ->

$\text{Mg} + \text{HOH} \rightarrow \text{Mg}(\text{OH})_2 + \text{H}_2$

Iron III Oxide + Nitric Acid -> Iron III Nitrate + Water

$\text{Fe}_2\text{O}_3 + 6 \text{HNO}_3 \rightarrow 2 \text{Fe}(\text{NO}_3)_3 + 3 \text{HOH}$

Hydrogen Sulfide gas + Lead II Nitrate -> Lead II Sulfide + Nitric Acid

$\text{H}_2\text{S} + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbS} + 2 \text{HNO}_3$

Iron III Chloride + Potassium Hydroxide

$\text{FeCl}_3 + 3 \text{KOH} \rightarrow \text{Fe}(\text{OH})_3 + 3 \text{KCl}$

Lead II Acetate + Potassium Iodide

$\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2 + 2 \text{KI} \rightarrow \text{PbI}_2 + 2 \text{K C}_2\text{H}_3\text{O}_2$

Lithium Oxide + Water ->

$\text{Li}_2\text{O} + \text{HOH} \rightarrow 2 \text{LiOH}$

Antimony Metal and Chlorine Gas ->

$2 \text{Sb} + 3 \text{Cl}_2 \rightarrow 2 \text{SbCl}_3$

Iron II Sulfide + Hydrochloric Acid ->

$\text{FeS} + 2 \text{HCl} \rightarrow \text{FeCl}_2 + \text{H}_2\text{S}$

Aluminum Metal and Copper II Oxide ->

$2 \text{Al} + 3 \text{CuO} \rightarrow \text{Al}_2\text{O}_3 + 3 \text{Cu}$

Ammonium Chloride + Potassium Hydroxide

$\text{NH}_4\text{Cl} + \text{KOH} \rightarrow \text{NH}_3 + \text{HOH} + \text{KCl}$

Hydrogen Sulfide + Chlorine Gas ->

$8 \text{H}_2\text{S} + 8 \text{Cl}_2 \rightarrow \text{S}_8 + 16 \text{HCl}$

Lithium Hydroxide + Carbon Dioxide

$2 \text{LiOH} + \text{CO}_2 \rightarrow \text{Li}_2\text{CO}_3 + \text{HOH}$

Potassium Carbonate + Nitric Acid ->

$\text{K}_2\text{CO}_3 + 2 \text{HNO}_3 \rightarrow 2 \text{KNO}_3 + \text{HOH} + \text{CO}_2$

Sodium Chloride + Sulfuric Acid ->

$2 \text{NaCl} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + 2 \text{HCl}$

Sodium Sulfate + Calcium Chloride ->

$\text{Na}_2\text{SO}_4 + \text{CaCl}_2 \rightarrow \text{CaSO}_4 + 2 \text{NaCl}$

Calcium Hydroxide + Hydrochloric Acid ->

$\text{Ca}(\text{OH})_2 + 2 \text{HCl} \rightarrow \text{CaCl}_2 + 2 \text{HOH}$

Sodium Hydroxide + Phosphoric Acid ->

$3 \text{NaOH} + \text{H}_3\text{PO}_4 \rightarrow \text{Na}_3\text{PO}_4 + 3 \text{HOH}$

Sodium Bicarbonate -> Decomposition with heat

$2 \text{NaHCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + \text{CO}_2 + \text{HOH}$

Barium Nitrate + Sodium Chromate ->

$\text{Ba}(\text{NO}_3)_2 + \text{NaCrO}_4 \rightarrow \text{BaCrO}_4(\text{s}) + 2 \text{NaNO}_3$

Lead II Chloride + Potassium Sulfate ->

$\text{PbCl}_2 + \text{K}_2\text{SO}_4 \rightarrow \text{PbSO}_4 + 2 \text{KCl}$

$\text{Na}_2\text{SO}_4 + \text{KCl} \rightarrow \text{NR}$

$\text{Ba}(\text{NO}_3)_2 + \text{NaCl} \rightarrow \text{NR}$

$\text{Na}_2\text{S} + \text{Cu}(\text{NO}_3)_2 \rightarrow \text{CuS} + 2 \text{NaNO}_3$

$2 \text{NH}_4 + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbCl}_2 + 2 \text{NH}_4\text{NO}_3$

Silver Nitrate + Sodium Chromate -> Silver Chromate + Sodium Nitrate

$2 \text{AgNO}_3 + \text{NaCrO}_4 \rightarrow \text{Ag}_2\text{CrO}_4 + 2 \text{NaNO}_3$

Nickel II Nitrate + Potassium Carbonate -> Nickel II Carbonate ppt + Potassium Nitrate

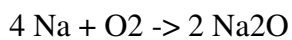
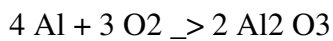
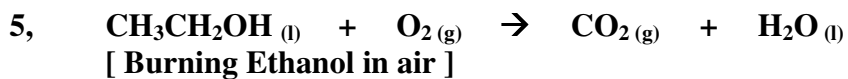
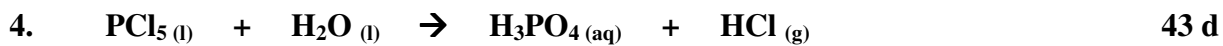
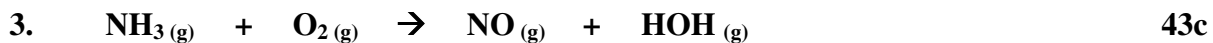
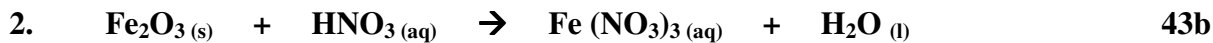
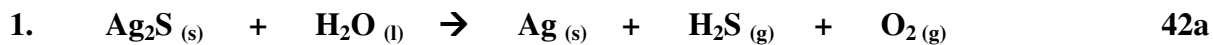
$\text{Ni}(\text{NO}_3)_2 + \text{K}_2\text{CO}_3 \rightarrow \text{NiCO}_3 \text{ ppt} + 2 \text{KNO}_3$

Lead (II) Nitrate and Potassium Iodide -> yellow ppt

$\text{Pb}(\text{NO}_3)_2 + 2 \text{KI} \rightarrow 2 \text{KNO}_3 + \text{PbI}_2$

Reaction of Hydrobromic Acid and aq Sodium Hydroxide

$\text{HBr} + \text{NaOH} \rightarrow \text{NaBr} + \text{HOH}$

Redox**C. Balance the following chemical reactions [5 Points Each] :****A. Write the Formulae for the Reactants and Products****B. Balance the Equation****C. Will the Reaction go to Completion**

1. Sulfuric Acid and Calcium Hydroxide
2. Ammonium Carbonate and Lead II Nitrate
3. Potassium Phosphate and Cobalt III Chloride