

Identifying Soluble and Insoluble Compounds

Name _____

Classify each of the following compounds as a Nitrate (NO_3^{-1}),

Chloride (Cl^{-1}), Carbonate (CO_3^{-2}), Sulfate (SO_4^{-2}), Hydroxide (OH^{-1}),
or Sulfide (S^{-2}), and then state whether it is soluble or insoluble:

1) $\text{Ba}(\text{NO}_3)_2$

Classification: _____

Solubility: _____

7) PbCl_2

Classification: _____

Solubility: _____

2) CoCO_3

Classification: _____

Solubility: _____

8) K_2S

Classification: _____

Solubility: _____

3) $\text{Ca}(\text{OH})_2$

Classification: _____

Solubility: _____

9) $\text{Ba}(\text{OH})_2$

Classification: _____

Solubility: _____

4) BaSO_4

Classification: _____

Solubility: _____

10) NaCl

Classification: _____

Solubility: _____

5) CaS

Classification: _____

Solubility: _____

11) $\text{Cu}(\text{OH})_2$

Classification: _____

Solubility: _____

6) SrSO_4

Classification: _____

Solubility: _____

12) $\text{Fe}(\text{NO}_3)_2$

Classification: _____

Solubility: _____

Predicting precipitates:

Determine whether each pair of solutions would react to form a precipitate (an insoluble compound). Make your predictions then try them with the solutions on the lab bench.

If a reaction occurs write the chemical equation in words, in formulas and as a net ionic equation. Be sure to include states of matter.

1) Reactants: Calcium Chloride and Sodium Carbonate

2) Reactants: Sodium Sulfide and Sodium Carbonate

3) Reactants: Sodium Hydroxide and Lead(II) Nitrate

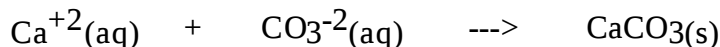
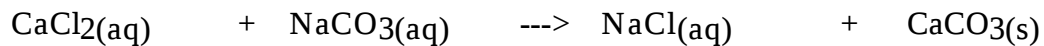
4) Reactants: Cobalt(II) Nitrate and Sodium Sulfide

5) Reactants: Lead(II) Nitrate and Sodium Nitrate

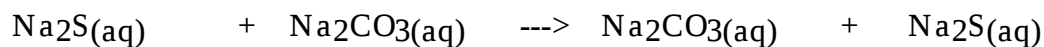
If you have time, see if you can find other combinations of two reactants that will cause a reaction. Remember, only use 3-4 drops of each one. Write the reactions you discover below:

Precipitate Lab Answers

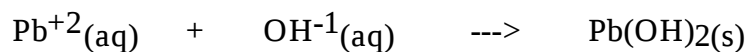
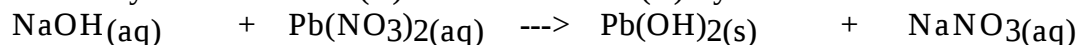
1) Calcium chloride + sodium carbonate $\rightarrow$ sodium chloride + calcium carbonate



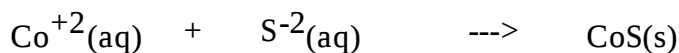
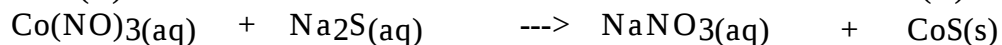
2) sodium sulfide + sodium carbonate $\rightarrow$ sodium carbonate + sodium sulfide



3) sodium hydroxide + lead(II) nitrate $\rightarrow$ lead(II) hydroxide + sodium nitrate



4) cobalt(II) nitrate + sodium sulfide $\rightarrow$ sodium nitrate + cobalt(II) sulfide



5) lead(II) nitrate + cobalt(II) nitrate $\rightarrow$ cobalt(II) nitrate + lead(II) nitrate

