

8.1 ANSWERS

1. Sodium Chloride + Lead(II) Nitrate $\rightarrow$ Sodium Nitrate + Lead(II) Chloride

2. Hydrogen + Chlorine $\rightarrow$ Hydrochloric acid

3. Zinc Chloride + Silver Nitrate $\rightarrow$ Zinc Nitrate + Silver Chloride

4. Sulfur dioxide $\rightarrow$ Sulfur + Oxygen

5. $4\text{Na(s)} + \text{O}_2\text{(g)} \rightarrow 2\text{Na}_2\text{O(s)}$

6. $\text{CaCO}_3\text{(s)} \rightarrow \text{CaO(s)} + \text{CO}_2\text{(g)}$

7. $\text{Zn(s)} + 2\text{H}^+\text{(aq)} \rightarrow \text{Zn}^{2+}\text{(aq)} + \text{H}_2\text{(g)}$

8. $2\text{K(s)} + \text{Cl}_2\text{(g)} + 3\text{O}_2\text{(g)} \rightarrow 2\text{KClO}_3\text{(s)}$

9. $\text{Mg(s)} + \text{Hg(NO}_3)_2\text{(aq)} \rightarrow \text{Hg(s)} + \text{Mg(NO}_3)_2$

10. $2\text{H}_2\text{O} + \text{Ca(s)} \rightarrow \text{Ca(OH)}_2\text{(aq)} + \text{H}_2\text{(g)}$

11. $4\text{Cu(s)} + \text{O}_2\text{(g)} \rightarrow 2\text{Cu}_2\text{O(s)}$

12. $3\text{Br}_2\text{(l)} + \text{N}_2\text{(g)} \rightarrow 2\text{NBr}_3\text{(g)}$

13. $\text{K}_2\text{SO}_4\text{(aq)} + \text{Pb(NO}_3)_2\text{(aq)} \rightarrow \text{PbSO}_4\text{(s)} + 2\text{KNO}_3\text{(aq)}$

14. $2\text{Al}_2\text{O}_3\text{(s)} \rightarrow 4\text{Al(s)} + 3\text{O}_2\text{(g)}$

15. $5\text{O}_2\text{(g)} + \text{P}_4 \rightarrow 2\text{P}_2\text{O}_5\text{(s)}$

16. $\text{CO(g)} + \text{SO}_3\text{(g)} \rightarrow \text{CO}_2\text{(g)} + \text{SO}_2\text{(g)}$

17. $2\text{NH}_3\text{(g)} + \text{H}_2\text{S(g)} \rightarrow (\text{NH}_4)_2\text{S(s)}$

18. $2\text{C}_2\text{H}_6\text{(g)} + 7\text{O}_2\text{(g)} \rightarrow 4\text{CO}_2\text{(g)} + 6\text{H}_2\text{O(g)}$

Worksheet 8.2 – Solubility Rules

Name KEY
Class Period _____

Complete the following equations. Note that precipitates are insoluble and are followed by (s). Species in solution are followed by (aq). Note the list of insoluble salts. These are precipitates. Note the list of polyatomic ions. These atoms always stay together as a unit.

Precipitation Reactions:

Which of the following substances would you expect to be insoluble in water?

Barium hydroxide

Hydrochloric acid

Lithium sulfate

Ammonium nitrate

Silver chloride

Lithium carbonate

Calcium carbonateBarium sulfate

Ammonium acetate

Lead acetate

Strontium hydroxide

Ammonium nitrate

Silver nitrate

Cadmium acetate

Solutions of lead (II) nitrate and potassium iodide are mixed.

a. Does a precipitation reaction occur? YES

b. Write balanced molecular, ~~total ionic~~, and ~~net ionic~~ equations.

