Chapter 6 Reaction Practice Group Quiz Answers

1. Magnesium ribbon is burned in oxygen.

$$2Mg + O_2 \rightarrow 2MgO$$

2. A bar of strontium metal is immersed in a 1.0 M copper(II) nitrate solution.

$$Sr + Cu^{2+} \rightarrow Sr^{2+} + Cu$$

3. A sample of nickel(II) sulfite hexahydrate is heated strongly.

$$NiSO_3 * 6H_2O \rightarrow NiSO_3 + 6H_2O$$

4. Solutions of sodium chromate and lead(II) nitrate are mixed.

$$CrO_4^{2-} + Pb^{2+} \rightarrow PbCrO_4$$

5. Liquid bromine is carefully added to a solution of potassium iodide.

$$Br_2 + 2I^{1-} \rightarrow 2Br^{1-} + I_2$$

6. A solution of sodium iodide is added to a solution of lead(II) acetate.

$$2\mathbf{I}^{1-} + \mathbf{Pb}^{2+} \rightarrow \mathbf{PbI}_2$$

7. Pure solid phosphorus (P4) is burned in air.

$$P_4 + 5O_2 \rightarrow P_4O_{10}$$

8. Solid sodium carbonate is strongly heated.

$$Na_2CO_3 \rightarrow Na_2O + CO_2$$

9. A piece of copper wire is placed in a solution of silver nitrate.

$$Cu + Ag^{1+} \rightarrow Cu^{1+} + Ag$$

10. Solutions of strontium nitrate and sodium sulfate are mixed.

$$Sr^{2+} + SO_4^{2-} \rightarrow SrSO_4$$

11. A small piece of calcium metal is added to hot distilled water.

$$Ca + 2HOH \rightarrow Ca(OH)_2 + H_2$$

12. Butanol(C₄H₉OH) is burned in air.

$$C_4H_9OH + 6O_2 \rightarrow 4CO_2 + 5H_2O$$

13. A solution of copper(II) chloride is added to a solution of sodium sulfide.

$$Cu^{2+} + S^{2-} \rightarrow CuS$$

14. Solid potassium chlorate is heated strongly.

$$2KClO_3 \rightarrow 2KCl + 3O_2$$

15. Powdered strontium oxide is added to distilled water.

$$SrO + H_2O \rightarrow Sr(OH)_2$$

16. Solutions of cobalt(II) nitrate and sodium hydroxide are mixed.

$$\text{Co}^{2+} + 2\text{OH}^{1-} \rightarrow \text{Co}(\text{OH})_2$$

17. Ethene(C₂H₄) gas is burned in air.

$$C_2H_4 + 3O_2 \rightarrow 2CO_2 + 2H_2O$$

18. A strip of zinc is added to a solution of hydrochloric acid.

$$\mathbf{Zn} + 2\mathbf{H}^{1+} \rightarrow \mathbf{Zn}^{2+} + \mathbf{H}_2$$

19. Solid nickel(II) sulfide is strongly heated in air.

$$2NiS + 3O_2 \rightarrow 2NiO + 2SO_2$$

20. Solid pieces of potassium and iodine are heated strongly

$$2K + I_2 \rightarrow 2KI$$

Honors Chemistry Chapter 6 Reaction Practice Homework Answers

1. A piece of nickel metal is immersed in a solution of copper(II) sulfate.

$$Ni + Cu^{2+} \rightarrow Ni^{2+} + Cu$$

2. A solution of potassium phosphate is mixed with a solution of calcium acetate.

$$2PO_4^{3-} + 3Ca^{2+} \rightarrow Ca_3(PO_4)_2$$

3. A strip of magnesium is added to a solution of silver nitrate.

$$Mg + 2Ag^{1+} \rightarrow Mg^{2+} + 2Ag$$

4. Ethyne(C_2H_2) gas is burned in air.

$$2C_2H_2 + 5O_2 \rightarrow 4CO_2 + 2H_2O$$

5. Solid calcium is added to warm water.

$$Ca + 2HOH \rightarrow Ca(OH)_2 + H_2$$

6. Propanol(C₃H₇OH) is burned completely in air.

$$2C_3H_7OH + 9O_2 \rightarrow 6CO_2 + 8H_2O$$

7 A piece of lithium metal is dropped into a container of nitrogen gas.

$$6Li + N_2 \rightarrow 2Li_3N$$

8. A solution of sodium sulfide is added to a solution of zinc nitrate.

$$S^{2-} + Zn^{2+} \rightarrow ZnS$$

9. Chlorine gas is bubbled into a solution of potassium iodide.

$$Cl_2 + 2I^{1-} \rightarrow 2Cl^{1-} + I_2$$

10. Sodium metal is added to water.

$$2Na + 2HOH \rightarrow 2NaOH + H_2$$

11. Solid calcium carbonate is heated.

12. A piece of solid bismuth is heated strongly in oxygen.

$$4Bi + 3O_2 \rightarrow 2Bi_2O_3$$

13. Solutions of silver nitrate and sodium chromate are mixed. $2Ag^{1+} + CrO_4^{2-} \rightarrow Ag_2CrO_4$

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14. Solutions of sodium iodide and lead nitrate are mixed.

$$2I^{1-} + Pb^{2+} \rightarrow PbI_2$$

15. Calcium metal is heated strongly in nitrogen gas.

$$3Ca + N_2 \rightarrow Ca_3N_2$$

16. Solid aluminum oxide is added to a solution of sodium hydroxide.

$$Al^{3+} + 3OH^{1-} \rightarrow Al(OH)_3$$

17. A piece of aluminum metal is added to a solution of silver nitrate.

$$Al + 3Ag^{1+} \rightarrow Al^{3+} + 3Ag$$

18. An excess of sodium hydroxide solution is added to a solution of magnesium nitrate.

$$2OH^{1-} + Mg^{2+} \rightarrow Mg(OH)_2$$

19. Solutions of potassium phosphate and zinc nitrate are mixed.

$$2PO_4^{3-} + 3Zn^{2+} \rightarrow Zn_3(PO_4)_2$$

20. A mixture of powdered iron(III) oxide and powdered aluminum metal is heated strongly.

$$Fe_2O_3 + 2Al \rightarrow Al_2O_3 + 2Fe$$