



Name _____ Block ____ Date _____

Balancing Chemical Equations (II)



Write balanced chemical equations (including phases!) for each of the following reactions.

1. Gaseous ammonia reacts with aqueous hydrochloric acid (HCl) to form aqueous ammonium chloride.

2. When heated solid calcium carbonate decomposes to form solid calcium oxide and gaseous carbon dioxide.

3. Solid barium oxide reacts with liquid water to form aqueous barium hydroxide.

4. Liquid acetaldehyde (CH_3CHO) decomposes to form natural gas (methane, CH_4) and carbon monoxide gas.

5. Zinc reacts with aqueous copper(II) nitrate to form aqueous zinc nitrate and copper.

6. When heated, solid calcium sulfite decomposes to form solid calcium oxide and gaseous sulfur dioxide.

7. Iron reacts with aqueous sulfuric acid to form aqueous iron(II) sulfate and hydrogen gas.

8. Liquid azomethane ($\text{C}_2\text{H}_6\text{N}_2$) decomposes to form gaseous ethane (C_2H_6) and nitrogen gas.

9. Carbon monoxide gas reacts with chlorine to form gaseous phosgene (COCl_2).

(over)

10. Solid manganese(II) iodide decomposes when exposed to light to form manganese and iodine.

11. Liquid dinitrogen pentoxide reacts with water to produce aqueous nitric acid (HNO_3).

12. Magnesium reacts with solid titanium(IV) chloride to produce solid magnesium chloride and titanium.

13. Carbon reacts with zinc oxide to produce solid zinc and carbon dioxide.

14. Bromine reacts with solid sodium iodide to form solid sodium bromide and iodine.

15. Gaseous phosphorus trichloride reacts with chlorine to produce liquid phosphorus pentachloride.

16. Phosphorus reacts with bromine to produce gaseous phosphorus tribromide.

17. Solid calcium hydride(CaH_2) reacts with liquid water to produce aqueous calcium hydroxide + hydrogen.

18. Aqueous sulfuric acid (H_2SO_4) reacts with solid potassium hydroxide to produce aqueous potassium sulfate and liquid water.

19. Liquid propane (C_3H_8) reacts with oxygen to produce carbon dioxide and liquid water.

20. Liquid ethanol ($\text{C}_2\text{H}_5\text{OH}$) reacts with oxygen to produce carbon dioxide and liquid water.