Name:	Date :
	Writing and Balancing Chemical Reactions
	the products along with the states and balance the following chemical reactions. ad (II) nitrate solution is mixed with sodium iodide solution.
b) Solic	I zinc sulfide reacts with oxygen in the air.
c) Liqui	id butane is used as a fuel to ignite a lighter.
d) Bariu	um hydroxide solution is neutralized by adding hydrochloric acid.
e) Copp	per metal is placed in a solution of silver nitrate.
f) Sulfu	ır burns in oxygen to make sulfur dioxide gas.
g) A sol	ution of aluminum sulfate is mixed with a solution of calcium hydroxide.
h) Zinc	metal is placed in sulfuric acid.
i) Alun	ninum powder is placed in a container filled with chlorine gas.
j) Sucr	ose (C ₁₂ H ₂₂ O ₁₁) undergoes cellular respiration.

Writing and Balancing Chemical Reactions

Answers

a) A lead (II) nitrate solution is mixed with sodium iodide solution.

$$Pb(NO_3)_2(aq.) + 2 Nal(aq.) \rightarrow Pbl_2(s) + 2 NaNO_3(aq.)$$

b) Solid zinc sulfide reacts with oxygen in the air.

$$8 \text{ ZnS (s)} + 4 O_2(g) \rightarrow 8 \text{ ZnO}_2(s) + S_8(s)$$

c) Liquid butane is used as a fuel to ignite a lighter.

$$2 C_4 H_{10} (I) + 13 O_2 (g) \rightarrow 8 CO_2 (g) + 10 H_2 O (g)$$

d) Barium hydroxide solution is neutralized by adding hydrochloric acid.

$$Ba(OH)_{2}(aq.) + 2 HCI(aq.) \rightarrow BaCI_{2}(aq.) + 2 H_{2}O(I)$$

e) Copper metal is placed in a solution of silver nitrate.

$$Cu(s) + 2 AgNO_3(aq.) \rightarrow Cu(NO_3)_2(aq.) + 2 Ag(s)$$

f) Sulfur burns in oxygen to make sulfur dioxide gas.

$$S_8(s) + 8O_2(g) \rightarrow 8SO_2(g)$$

g) A solution of aluminum sulfate is mixed with a solution of calcium hydroxide.

$$Al_{2}(SO_{4})_{3}$$
 (aq.) + 3 Ca(OH)₂ (aq.) \rightarrow 2 Al(OH)₃ (s) + 3 CaSO₄ (s)

h) Zinc metal is placed in sulfuric acid.

$$Zn(s) + H_2SO_4(aq.) \rightarrow ZnSO_4(aq.) + H_2(g)$$

i) Aluminum powder is placed in a container filled with chlorine gas.

$$2 \text{ Al (s)} + 3 \text{ Cl}_{2}(g) \rightarrow \text{AlCl}_{3}(s)$$

j) Sucrose (C₁₂H₂₂O₁₁) undergoes cellular respiration.

$$C_{12}H_{22}O_{11}(s) + 12 O_{2}(g) \rightarrow 12 CO_{2}(g) + 11 H_{2}O(I)$$