Chemical Equation Worksheet

Write, complete, and balance the following equations using phase notation.

1) **sulfur dioxide + water →**
2) **ammonium nitrite →**
3) **lead(II) nitrate + potassium sulfide →**
4) **barium oxide + water →**
5) **potassium chlorate →**
6) **chlorine + lithium iodide →**
7) **ammonium sulfate + calcium hydroxide →**
8) **copper + silver nitrate →**
9) **bromine + calcium iodide →**
10) **calcium carbonate →**
11) **lead(II) acetate + hydrogen sulfide →**
12) **iron(III) oxide + carbon monoxide →**
13) **aluminum bromide + chlorine →**
14) **magnesium carbonate →**
15) **iron(III) chloride + sodium hydroxide →**

Solutions

1) **sulfur dioxide + water → sulfurous acid**

$SO_2(g) + H_2O(l) \rightarrow H_2SO_3(aq)$

2) **ammonium nitrite → nitrogen + water**

$NH_4NO_2(aq) \rightarrow N_2(g) + 2H_2O(l)$

3) **lead(II) nitrate + potassium sulfide → lead(II) sulfide + potassium nitrate**

$Pb(NO_3)_2(aq) + K_2S(aq) \rightarrow PbS(s) + 2KNO_3(aq)$

4) **barium oxide + water → barium hydroxide**

$BaO(s) + H_2O(l) \rightarrow Ba(OH)_2(aq)$

5) **potassium chlorate → potassium chloride + oxygen**

$2KClO_3(s) \rightarrow 2KCl(s) + 3O_2(g)$

6) **chlorine + lithium iodide → lithium chloride + iodine**

$Cl_2(g) + 2LiI(aq) \rightarrow 2LiCl(aq) + I_2(s)$

7) **ammonium sulfate + calcium hydroxide → ammonium hydroxide + calcium sulfate**

$(NH_4)_2SO_4(aq) + Ca(OH)_2(aq) \rightarrow 2NH_4OH(aq) + CaSO_4(s)$

8) **copper + silver nitrate → copper(II) nitrate + silver**

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

9) **bromine + calcium iodide → calcium bromide + iodine**

$Br_2(l) + CaI_2(aq) \rightarrow CaBr_2(aq) + I_2(s)$

10) **calcium carbonate → calcium oxide + carbon dioxide**

$CaCO_3(s) \rightarrow CaO(s) + CO_2(g)$

11) **lead(II) acetate + hydrogen sulfide → lead(II) sulfide + acetic acid**

$Pb(C_2H_3O_2)_2(aq) + H_2S(g) \rightarrow PbS(s) + 2HC_2H_3O_2(aq)$

12) **iron(III) oxide + carbon monoxide → iron + carbon dioxide**

$Fe_2O_3(s) + 3CO(g) \rightarrow 2Fe(s) + 3CO_2(g)$

13) **aluminum bromide + chlorine → aluminum chloride + bromine**

$2AlBr_3(aq) + 3Cl_2(g) \rightarrow 2AlCl_3(aq) + 3Br_2(l)$

14) **magnesium carbonate → magnesium oxide + carbon dioxide**

$MgCO_3(s) \rightarrow MgO(s) + CO_2(g)$

15) **iron(III) chloride + sodium hydroxide → iron(III) hydroxide + sodium chloride**

$FeCl_3(aq) + 3NaOH(aq) \rightarrow Fe(OH)_3(s) + 3NaCl(aq)$