$(NH_4)_3PO_4\,(aq) + 3AgNO_3\,(aq) \rightarrow 3NH_4NO_3\,(aq) + Ag_3PO_4\,(s)$

$3NH_4^+(aq) + PO_4^{3-}(aq) + 3Ag^+(aq) + 3NO_3^-(aq) \rightarrow 3NH_4^+(aq) + 3NO_3^-(aq) + Ag_3PO_4(s)$

$3Ag^+(aq) + PO_4^{3-}(aq) \rightarrow Ag_3PO_4\,(s)$

$ZnBr_2\,(aq) + K_2SO_4\,(aq) \rightarrow ZnSO_4\,(s) + 2\,KBr\,(aq)$

$Zn^{2+}(aq) + 2Br^-(aq) + 2K^+(aq) + SO_4^{2-}(aq) \rightarrow ZnSO_4(s) + 2K^+(aq) + 2Br^-(aq)$

$Zn^{2+}(aq) + SO_4^{2-}(aq) \rightarrow ZnSO_4\,(s)$

$NaOH\,(aq) + HCl\,(aq) \rightarrow NaCl\,(aq) + H_2O\,(l)$

$Na^+(aq) + OH^-(aq) + H^+(aq) + Cl^-(aq) \rightarrow Na^+(aq) + Cl^-(aq) + H_2O(l)$

$OH^-(aq) + H^+(aq) \rightarrow H_2O\,(l)$

$K_2O\,(aq) + FeCl_2\,(aq) \rightarrow 2KCl\,(aq) + FeO\,(s)$

$2K^+(aq) + O^{2-}(aq) + Fe^{2+}(aq) + 2Cl^-(aq) \rightarrow 2K^+(aq) + 2Cl^-(aq) + FeO(s)$

$O^{2-}(aq) + Fe^{2+}(aq) \rightarrow FeO(s)$

$2NaOH\,(aq) + MgBr_2\,(aq) \rightarrow 2\,NaBr\,(aq) + Mg(OH)_2\,(s)$

$2Na^+(aq) + 2OH^-(aq) + Mg^{2+}(aq) + 2Br^-(aq) \rightarrow 2Na^+(aq) + 2Br^-(aq) + Mg(OH)_2(s)$

$Mg^{2+}(aq) + 2OH^-(aq) \rightarrow Mg(OH)_2\,(s)$

$3CoBr_2\,(aq) + 2Na_3PO_4\,(aq) \rightarrow Co_3(PO_4)_2\,(s) + 6NaBr\,(aq)$

$3Co^{2+}(aq) + 6Br^-(aq) + 6Na^+(aq) + 2PO_4^{3-}(aq) \rightarrow Co_3(PO_4)_2(s) + 6Na^+(aq) + 6Br^-(aq)$

$3Co^{2+}(aq) + 2PO_4^{3-} \rightarrow Co_3(PO_4)_2\,(s)$

$Pb(NO_3)_2\,(aq) + Na_2CO_3\,(aq) \rightarrow PbCO_3\,(s) + 2NaNO_3\,(aq)$

$Pb^{2+}(aq) + 2NO_3^-(aq) + 2Na^+(aq) + CO_3^{2-}(aq) \rightarrow PbCO_3(s) + 2Na^+(aq) + 2NO_3^-(aq)$

$Pb^{2+}(aq) + CO_3^{2-}(aq) \rightarrow PbCO_3\,(s)$

Key

Complete and Net Ionic Equations

To write the complete ionic equation for a reaction you write all of the ions that are present in the reaction. This means that anything labeled "(aq)" needs to have all of its ions listed. Anything labelled "(s)" will stay intact.

The complete ionic equations for

$2AgNO_3\ (aq) + BaCl_2\ (aq) \rightarrow 2AgCl\ (s) + Ba(NO_3)_2\ (aq)$

Would look like:

$2Ag^+\ (aq) + 2NO_3^-\ (aq) + Ba^{2+}\ (aq) + 2Cl^-\ (aq) \rightarrow 2AgCl\ (s) + Ba^{2+}\ (aq) + 2NO_3^-\ (aq)$

The net ionic equation is obtained removing anything that shows up on both the reactant and product side.

$2Ag^+\ (aq) + \cancel{2NO_3^-\ (aq)} + \cancel{Ba^{2+}\ (aq)} + 2Cl^-\ (aq) \rightarrow 2AgCl\ (s) + \cancel{Ba^{2+}\ (aq)} + \cancel{2NO_3^-\ (aq)}$

$Ba^{2+}\ (aq)$ and $2NO_3^-\ (aq)$ show up on both sides so we remove them leaving us with

The net ionic equation:

$2Ag^+\ (aq) + 2Cl^-\ (aq) \rightarrow 2AgCl\ (s)$

Write the complete and net ionic equations for the following reactions:

$2KCl\ (aq) + Pb(NO_3)_2\ (aq) \rightarrow 2KNO_3\ (aq) + PbCl_2\ (s)$

$2K^+(aq) + 2Cl^-(aq) + Pb^{2+}(aq) + 2NO_3^-(aq) \longrightarrow 2K^+(aq) + 2NO_3^-(aq) + PbCl_2(s)$

$Pb^{2+}(aq) + 2Cl^-(aq) \longrightarrow PbCl_2(s)$

$3NaOH\ (aq) + FeBr_3\ (aq) \rightarrow Fe(OH)_3\ (s) + 3NaBr\ (aq)$

$3Na^+(aq) + 3OH^-(aq) + Fe^{3+}(aq) + 3Br^- \longrightarrow Fe(OH)_3(s) + 3Na^+(aq) + 3Br^-(aq)$

$3OH^-(aq) + Fe^{3+}(aq) \longrightarrow Fe(OH)_3\ (s)$

$CuCl_2\ (aq) + Na_2CO_3\ (aq) \rightarrow CuCO_3\ (s) + 2NaCl\ (aq)$

$Cu^{2+}(aq) + 2Cl^-(aq) + 2Na^+(aq) + CO_3^{2-}(aq) \longrightarrow CuCO_3(s) + 2Na^+(aq) + 2Cl^-(aq)$

$Cu^{2+}(aq) + CO_3^{2-}(aq) \longrightarrow CuCO_3(s)$