

In Class 3: Writing and Classifying Chemical Equations

Iron metal is added to a solution of hydrochloric acid. They react to form hydrogen gas and aqueous iron (III). The excess acid in the solution is then neutralized by adding a solution of sodium hydroxide. When an excess of the sodium hydroxide is added, iron (III) hydroxide precipitates from solution. When a solution of potassium thiocyanate is added to this mixture, a blood red complex ion consisting of one thiocyanate ion with one iron (III) ion is formed.

Write the relevant chemical equations for the reactions above. Indicate states of matter, classify the type of chemical reaction, and balance if it isn't a redox reaction. Finally, for each reaction, write the net ionic equation.