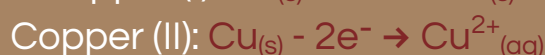# Copper Reactivity: Etching

Answers

1. Copper atoms in a metal have no charge, but copper ions in solution as copper chloride have a positive charge. Write half equations for the formation of copper(I) and copper (II) ions.

Copper (I): $Cu_{(s)} - e^- \rightarrow Cu^+_{(s)}$

Copper (II): $Cu_{(s)} - 2e^- \rightarrow Cu^{2+}_{(aq)}$

2. In the electroplating process copper ions in solution are deposited on the tracks, which are connected to an electrical negative terminal to make them the cathode. Write a half equation with state symbols to describe the process at the cathode

The electron half equation is:

$$Cu^{2+}_{(aq)} + 2e^- \rightarrow Cu_{(s)}$$

This equation shows the change at the cathode from a positively charged soluble copper ion to an insoluble metal

Return to Copper Reactivity - Etching