

Electrolytic cells

Chemical reactions that are nonspontaneous can be forced to proceed by the input of energy. **Electrolysis reactions** are oxidation-reduction reactions driven by the application of electrical energy.

The principal parts of an electrolysis apparatus are an electricity source, two electrodes and an electrolyte solution or also melt.

The electrical contact between the external circuit and the electrolyte is obtained by means of electrodes, which are often made out of graphite (coal) or some other unreactive metal. The electrode, at which electrons enter an electrolysis reaction, can occur in many kinds of solutions or melts.

The flow of electrons through the electrolysis cell is provided by the external electricity source. When electrons flow into the cell the electrode becomes negatively charged; the positive ions in solution move toward that electrode and reduction takes place. Soon evidence for a chemical reaction can be seen at the surface of the electrode. Depending on the substances present in the electrolyte solution or melt, gases may be evolved, metals deposited, or ionic species changed at the electrode. Oxidation takes place at the other electrode.

Task:

You are asked to electroplate a nickel spoon with silver: Write down what the electrodes are made of and what charge v ill they carry. Also write down what electrolyte you would use.

Melt = Schmelze

Source = Quelle