

# Electrolysis

**1. Electrolytes :** These are the substances which allow the electricity to pass through them in their molten states or in the form of their aqueous solution and undergo chemical decomposition. Examples— acids, bases & salts.

**2. Strong electrolytes :** The electrolytes which are almost completely dissociated into ions in solution are called strong electrolytes. Example— NaCl, KCl, HCl, NaOH etc.

**3. Weak electrolytes :** The electrolytes which do not ionise completely in solution are called weak electrolytes. Example—CH<sub>3</sub>COOH, H<sub>2</sub>C<sub>3</sub>, HCN, ZnCl<sub>2</sub>, NH<sub>4</sub>OH etc.

**4. Electrolysis :** The process of chemical decomposition of an electrolyte by passage of electric current through its molten state or its solution is called electrolysis.

**5. Electrodes :** In order to pass the current through an electrolyte in molten state or in aqueous solution, two rods or plates are needed to connect with the terminal of a battery. These rods or plates are called electrodes.

**Anode :** The electrode which is attached to positive terminal of battery is called anode. Oxidation occurs at anode.

**Cathode :** The electrode which is attached to negative terminal of battery is called, Reduction occurs at cathode.

Examples— Electrolysis of molten NaCl

**At anode :**  $\text{Cl}^- - e \rightarrow \text{Cl}$



**At cathode :**  $\text{Na}^+ + e \rightarrow \text{Na}$

So, Cl<sub>2</sub> gas occurs at anode while Na at cathode.