

Centre Universitaire Mila

Département des Sciences et Techniques

Spécialités: Génie Mécanique / Electromécanique

Module : Anglais technique et terminologie

Lecture 05

Electrolysis

Electrolysis is a technique used by scientists to separate a compound or molecule into its component parts. By adding electricity to water and providing a path for the different particles to follow, the water can be separated into hydrogen and oxygen.

To conduct electrolysis of water, two electric conductors (electrodes) are used. These electrodes are connected to the ends of a DC generator with wires or two battery ends. The liquid must contain an electrolyte to carry the current and complete the circuit, such as salt, which must be available in distilled water during electrolysis.

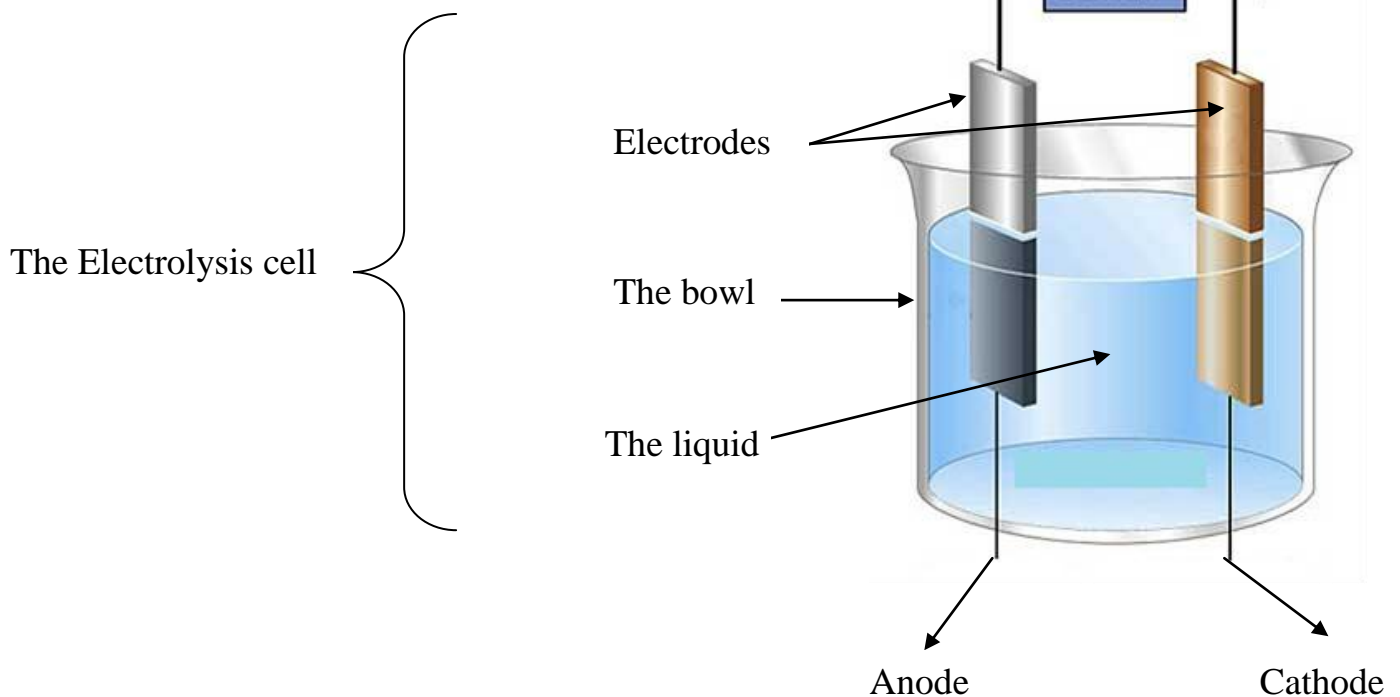
The electrode, the bowl and the liquid are called the electrolysis cell. The electrode connected to the positive battery pole is called the anode, which transfers the electrons from the electrolysis cell to the battery, while the pole connected to the negative battery pole is called the cathode, which transfers the electrons from the battery cell to the electrolysis cell.

When the electricity flows through the electrolysis cell, a series of chemical changes occur over the surface of the electrodes. The cathode liquid is dissolved with the electrons from the battery. This process is called "reduction". The liquid loses electrons at the anode and gives it to the elevator. "Oxidation"

During electrolysis of water, the resulting hydrogen volume is often twice the amount of oxygen produced, because the water contains two atoms of hydrogen for each atom of oxygen

Water electrolysis can be defined as a process in which an electric current passes through water medium or fluid that is chemically reacting. If the liquid is water, it decomposes into the oxygen and hydrogen elements.

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Compound - composed of two or more substances, ingredients, elements, or parts

Electrolysis -chemical change, especially decomposition, produced in an electrolyte by an electric current

Hydrogen - a colorless, highly flammable gaseous element, the lightest of all gases and the most abundant element in the universe

Molecule - the smallest part of a substance that retains the chemical and physical properties of the substance and is composed of two or more atoms

Oxygen -an element that at standard temperature and pressure is colorless, tasteless, and odorless (required for nearly all combustion and in the cellular functioning of animals)

Electrolysis is the process in which electrical energy is used to cause a **nonspontaneous** chemical reaction to occur.