Rechargeable alkaline battery wikipedia



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An alkaline battery is usually a primary cell (it cannot be recharged), but some are rechargeable. It is very common. Duracell, Rayovac, and Energizer are common brands of alkaline batteries. They were introduced in the 1960s and replaced the Leclanche battery as the "everyday battery" in the 1990s. They are marketed in many forms, such as AAA, AA, C, D, 9V, and small disc cells for watches and calculators. In the battery, zinc is oxidized by manganese dioxide in a potassium hydroxide electrolyte.

In chemistry and manufacturing, electrolysis is a technique that uses direct electric current (DC) to drive an otherwise non-spontaneous chemical reaction. Electrolysis is commercially important as a stage in the separation of elements from naturally occurring sources such as ores using an electrolytic cell. The voltage that is needed for electrolysis to occur is called the decomposition potential. The word "lysis" means to separate or break, so in terms, electrolysis would mean "breakdown via electricity."

A nickel–metal hydride battery is a type of rechargeable battery. The chemical reaction at the positive electrode is similar to that of the nickel–cadmium cell (NiCd), with both using nickel oxide hydroxide (NiOOH). However, the negative electrodes use a hydrogen-absorbing alloy instead of cadmium. NiMH batteries can have two to three times the capacity of NiCd batteries of the same size, with significantly higher energy density, although only about half that of lithium-ion batteries.

The nickel–cadmium battery is a type of rechargeable battery using nickel oxide hydroxide and metallic cadmium as electrodes. The abbreviation Ni–Cd is derived from the chemical symbols of nickel (Ni) and cadmium (Cd): the abbreviation NiCad is a registered trademark of SAFT Corporation, although this brand name is commonly used to describe all Ni–Cd batteries.

A dry cell is a type of electric battery, commonly used for portable electrical devices. Unlike wet cell batteries, which have a liquid electrolyte, dry cells use an electrolyte in the form of a paste, and are thus less susceptible to leakage.

A silver oxide battery is a primary cell using silver oxide as the cathode material and zinc for the anode. These cells maintain a nearly constant nominal voltage during discharge until fully depleted. They are available in small sizes as button cells, where the amount of silver used is minimal and not a prohibitively expensive contributor to the overall product cost.

A mercury battery is a non-rechargeable electrochemical battery, a primary cell. Mercury batteries use a reaction between mercuric oxide and zinc electrodes in an alkaline electrolyte. The voltage during discharge remains practically constant at 1.35 volts, and the capacity is much greater than that of a similarly sized zinc-carbon battery. Mercury batteries were used in the shape of button cells for watches, hearing aids, cameras and calculators, and in larger forms for other applications.

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A rechargeable alkaline battery, also known as alkaline rechargeable or rechargeable alkaline manganese (RAM), is a type of alkaline battery that is capable of recharging for repeated use. The formats include AAA, AA, C, D, and snap-on 9-volt batteries. Rechargeable alkaline batteries are manufactured fully charged and have the ability to hold their charge for years, longer than nickel-cadmium and nickel-metal hydride batteries, which self-discharge. Rechargeable alkaline batteries can have a high recharging efficiency and have less environmental impact than disposable cells.

The Leclanché cell is a battery invented and patented by the French scientist Georges Leclanché in 1866. The battery contained a conducting solution (electrolyte) of ammonium chloride, a cathode of carbon, a depolarizer of manganese dioxide (oxidizer), and an anode of zinc (reductant). The chemistry of this cell was later successfully adapted to manufacture a dry cell.

Batteries provided the primary source of electricity before the development of electric generators and electrical grids around the end of the 19th century. Successive improvements in battery technology facilitated major electrical advances, from early scientific studies to the rise of telegraphs and telephones, eventually leading to portable computers, mobile phones, electric cars, and many other electrical devices.

Eco-Cement is a brand-name for a type of cement which incorporates reactive magnesia, another hydraulic cement such as Portland cement, and optionally pozzolans and industrial by-products, to reduce the environmental impact relative to conventional cement. One problem with the commercialization of this cement, other than the conservatism of the building industry, is that the feedstock magnesite is rarely mined.

The lithium–air battery (Li–air) is a metal–air electrochemical cell or battery chemistry that uses oxidation of lithium at the anode and reduction of oxygen at the cathode to induce a current flow.

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