



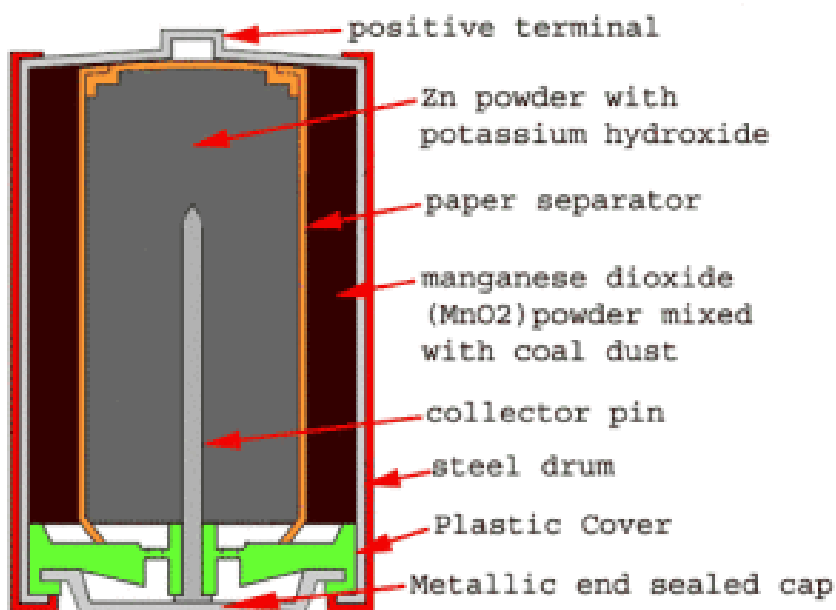
Alkaline batteries

An **alkaline battery** is a type of primary battery which derives its energy from the reaction between zinc metal and manganese dioxide.

Alkaline battery is improved form of dry cell ,in which the electrolyte NH_4Cl is replaced by KOH ..

Construction

- A carbon rod (Graphite),acts as cathode .The positive terminal of the battery is projected from the top of this drum.
- the powdered zinc is mixed with KOH & MnO_2 to get a gel.,is immersed in the electrolyte in the centre of the cell
- The outside cylindrical zinc body is made up of Zinc,acts as anode.



Alkaline Battery

Working

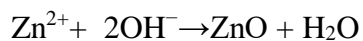
The alkaline electrolyte of potassium hydroxide is not part of the reaction, only the zinc and MnO_2 are consumed during discharge.

The half-reactions are:

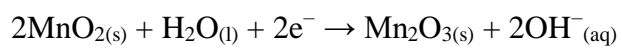


At Anode

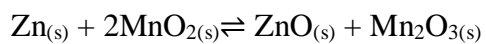
The half-reactions are:



At Cathode



Overall reaction:



The alkaline electrolyte of potassium hydroxide always remains in the cell, as there are equal amounts of OH^{-} consumed and produced. An alkaline battery cell is rated for 1.5 V.