ELECTRODE REACTIONS:

At anode $Zn \rightarrow Zn^{2+} + 2e^-$

$Zn^{2+} + 2OH^- \rightarrow ZnO + H_2O$

$Zn + 2OH^- \rightarrow ZnO + H_2O + 2e^-$

At Cathode $\frac{1}{2} O_2 + H_2O + 2e^- \rightarrow 2OH^-$

Cell reaction $Zn + \frac{1}{2} O_2 \rightarrow ZnO$

The cell produces an open circuit potential of 1.4V.

During the cell reaction the electrolyte remains invariant and the air cathode acts only as a reaction site and is not consumed.

Applications:

- used as a power source for hearing aids
- Used in electronic pagers.
- Used in telemetry / voice transmitters
- Used in various medical devices
- Large Zinc - air batteries used in railroad Signaling, Seismic telemetry, remote communications, etc.