CLAIMS

1. A magnesium air battery or cell comprising an alkaline electrolyte solution having at least a water-soluble electrolyte imparting conductivity and receiving a supply of oxygen, a metal copper or a copper alloy as an oxygen reduction air electrode (cathode), and a magnesium metal or an alloy thereof having a base electrode potential than the metal copper cathode as a negative electrode (anode), to generate an electric force by the following reactions:
   Oxidation at the negative electrode (anode): $2Mg \rightarrow 2Mg^{2+}+4e^-$; and
   Reduction at the positive electrode (cathode): $O_2+2H_2O+4e^- \rightarrow 4OH^-$,
   wherein the supply of oxygen into the alkaline electrolyte solution is carried out by addition of hydrogen peroxide and/or sodium percarbonate as an active material so as to make Cu catalyst reaction with hydrogen peroxide in the alkaline electrolyte solution together with the above air battery reaction.

2. The magnesium air battery or cell according to claim 1, wherein the Cu catalyst reaction with hydrogen peroxide is as follows: $H_2O_2+2H_2O+2e^- \rightarrow 2H_2O+2OH^-$ at the anode while $H_2O_2+2OH^- \rightarrow O_2+2H_2O+2e^-$ at the cathode.

3. The magnesium air battery or cell according to claim 1, wherein the cathode electrode is positioned with a spacer of the metal copper or alloy thereof close to the anode electrode in a manner to make an electoric doube layer capacitor by existance of the alkaline electrolyte solution containing hydrogen peroxide between the cathode electrode and the anode electrode.

4. The magnesium air battery or cell according to claim 1, wherein the magnesium electrode is made from a Mg/Al/Zn alloy electrode including MAZ61 and MAZ31.

5. The magnesium air battery or cell according to claim 1, wherein the alkaline electrolyte solution contains sodium percarbonate and/or hydrogen peroxide.

6. An emergency power source, which comprises an anode electrode made of

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a magnesium metal or an alloy thereof, a cathode electrode made of a metal copper or an alloy thereof as an oxygen reduction air electrode, a powder of sodium percarbonate as an active material and electrolyte, a spacer of the metal copper or the alloy to make an electoric doube layer capacitor between the cathode electrode and the anode electrode by existance of the alkaline electrolyte solution containing hydrogen peroxide and a storage tank, wherein a water or a seawater is charged into the tank to be operated at the time of the battery use.

7. The air battery or cell according to claim 1, wherein as an anode electrode, Zn or Al or an alloy thereof is used instead of Mg.

8. The emergency power source according to claim 6, wherein as an anode electrode, Zn or Al or an alloy thereof is used instead of Mg.

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