WHAT IS CLAIMED IS:

1. A moldable electrode for an aqueous sodium battery, wherein the components of said electrode and their mass percentages are: Positive/negative electrode active material 40-50%, conductive material 3-10%, binder 0.1-10%, cross-linking agent 0.1-5%, humectant 0.1-10%, surfactant 0.1-3%, electrolyte salt 0.1-30% and deionized water 10-30%;

wherein the positive electrode active material is for a positive electrode, and the negative electrode active material is for a negative electrode, wherein the positive electrode active material includes a transition metal oxide, a phosphate polyanionic compound, a Prussian blue analog, or organic electrode material; and wherein the negative electrode active material includes activated carbon, a Prussian blue analog, a sodium storage organic material or titanium-phosphorus-based oxide;

wherein the conductive material is one or more of the following: artificial graphite, natural graphite, activated carbon, graphene, carbon black, carbon fiber and mesoporous carbon;

wherein the binder is one or more of the following: polyacrylic acid, polyvinyl alcohol, staghorn pectin, hydroxyethyl cellulose, xanthan gum, polytetrafluoroethylene and PVDF;

wherein the crosslinking agent is selected from a silane crosslinking agent, polyvinyl alcohol, and boric acid; and the humectant is one or more of the following: glycerin, sorbitol, propylene glycol, and polyethylene glycol.

2. The moldable electrode of claim 1, wherein the surfactant is one or more of the following: sodium dodecylbenzene sulfonate and stearic acid.

3. The moldable electrode of claim 1, wherein the electrolyte salt is one or more of the following: sodium sulfate, sodium nitrate, sodium hypochlorite, sodium sulfite, sodium chloride, sodium sulfonate, and sodium phosphate.

4. A method for preparing a moldable electrode for an aqueous sodium battery, comprising

the following steps:

S1: Mixing an electrolyte salt with deionized water to form a uniform electrolyte solution;

S2: Adding a surfactant and humectant to the electrolyte solution to get a uniform solvent matrix;

S3: Adding a conductive material into the solvent matrix, and making the conductive material uniformly dispersed in the solvent matrix through high-speed stirring;

S4: If a positive electrode is to be prepared, adding a positive electrode active material and binder; if a negative electrode is to be prepared, adding a negative electrode active material and binder; and then mixing evenly by high-speed stirring; and

S5: Adding a cross-linking agent to cross-link with the binder under low-speed stirring to form a three-dimensional network structure of a moldable electrode as a paste for use in an aqueous sodium battery;

wherein the weight percentage of each component in the above steps is as follows: positive/negative electrode active material 40-50%, conductive material 3-10%, binder 0.1-10%, crosslinking agent0.1-5%, humectant 0.1-10%, surfactant 0.1-3%, electrolyte salt 0.1-30%, and deionized water 10-30%;

wherein the positive electrode active material includes a transition metal oxide, a phosphate polyanionic compound, a Prussian blue analog, or organic electrode material; and wherein the negative electrode active material includes activated carbon, a Prussian blue analog, a sodium storage organic material or titanium-phosphorus-based oxide;

wherein the conductive material is one or more of the following: artificial graphite, natural graphite, activated carbon, graphene, carbon black, carbon fiber and mesoporous carbon;

wherein the binder is one or more of the following: polyacrylic acid, polyvinyl alcohol, staghorn pectin, hydroxyethyl cellulose, xanthan gum, polytetrafluoroethylene and PVDF;

wherein the crosslinking agent is selected from a silane crosslinking agent, polyvinyl alcohol, and boric acid; and the humectant is one or more of the following: glycerin, sorbitol, propylene

glycol, and polyethylene glycol.

5. A method for preparing an aqueous sodium battery using the moldable electrode of claim 1, comprising the following steps:

Z1: Using a bottom pressure plate as the bottom of said battery, placing a bottom current collector on top of said bottom pressure plate:

Z2: Placing a conductive plate on top of the current collector, and adding an appropriate amount of negative moldable electrode paste on the conductive plate;

Z3: Placing a separator on top of the negative moldable electrode paste, and pressing the negative moldable electrode paste into shape:

Z4: Adding an appropriate amount of positive moldable electrode paste on the separator; then placing a conductive plate on top of the positive moldable electrode paste, and pressing said paste into shape; followed by adding an appropriate amount of negative moldable electrode paste on the conductive plate;

Z5: Repeating steps Z3-Z4 a number of times until the number of electrodes required for a specific battery capacity is reached, and the top electrode paste is a positive electrode paste; and

Z6: Placing a top conductive plate, a top current collector and a top pressure plate in sequence on top of the positive electrode paste in Z5, and compressing it to make said aqueous sodium battery.

6. An aqueous sodium battery using the moldable electrode of claim 1, characterized in that the aqueous sodium battery comprises, from bottom to top, a bottom pressure plate, a bottom current collector, a conductive plate, negative moldable electrode, separator, positive moldable electrode, top conductive plate, top current collector and top pressure plate; wherein between the bottom and top pressure plates, there are a number of battery cells composed of conductive plates, negative moldable electrodes, separators, and positive moldable electrodes; wherein both sides of each conductive plate and each separator have upward protruding edges, such that the height of the protruding edges on each conductive plate is the same as the thickness of the negative moldable

electrode, and the height of the protruding edges of each separator corresponds to the thickness of the positive moldable electrode; wherein the bottom pressure plate, the bottom current collector, the top conductive plate, the top current collector and the top pressure plate are plate-shaped.