What is claimed is:

1. An aqueous sodium-ion battery anode which is based on ceramic powder of titanium phosphorus oxide, characterized in that the titanium-phosphorus oxide is composed of a main phase, a stable phase and a coating phase:

   The content of the stable phase is 0.01-1.0%;

   The coating phase is formed by calcining liquid phase carbonizable raw materials, with a content not exceeding 3% and a thickness of 2-100nm. The liquid phase carbonizable raw materials are selected from polydopamine, resorcinol formaldehyde resin, glucose, sucrose, fructose, polyvinylpyrrolidone (PVP), tannic acid, citric acid, polyvinyl alcohol, polypyrrole, vitamin C, and polyethylene glycol;

   The main phase is $NaTi_2(PO_4)_3$; and the stable phase is $Mg_{0.5}Ti_2(PO_4)_3$ or Mn (TiCr) $(PO_4)_3$.

2. A method for preparing the battery anode as claimed in claim 1, has following steps: (a) uniformly dispersing titanium source in water, and then sequentially adding a sodium source and a phosphorus source; (b) adding stable phase raw materials; (c) adding coating phase raw materials and adjusting the pH value of slurry to 6-8; (d) drying the slurry to powder; (e) sintering the powder to obtain the ceramic powder of the titanium phosphorus oxide;

   The sodium source is selected from sodium phosphate, sodium carbonate, sodium dihydrogen phosphate, sodium hydroxide, and sodium acetate, with a particle size of D50 less than 3 μm;

   The titanium source is selected from titanium dioxide, titanium hydroxide, metatitanic acid, and tetrabutyl titanate, with a particle size D50 less than 1 μm;

   The phosphorus source is selected from phosphoric acid, ammonium dihydrogen phosphate, diammonium hydrogen phosphate, ammonium phosphate, sodium dihydrogen phosphate, and disodium hydrogen phosphate, with a particle size D50 less than 3 μm;

   The stable phase raw material is selected from magnesium hydroxide, or manganese carbonate and chromium carbonate;

   The molar ratio of the coating phase amount to the metal ions of the stable phase is 1:1 to 5:1.