

A High Safety Sodium Ion Battery and Its Capacity Grading Method and Application

Abstract

The present invention discloses a high safety sodium ion battery that can be applied as an energy storage module in a backup system, including a positive electrode, a negative electrode, and the electrolyte. The positive electrode and negative electrode are both composed of active materials, conductive agents, and binders. The active materials of the positive electrode and negative electrode are both made of highly stable polyanionic materials, and the active materials used in the electrode will not undergo interface reactions with the electrolyte during charge and discharge cycles; The floating charge capacity of a single battery for one hour is less than 0.4 ‰ of the total battery capacity. The high safety sodium ion battery of the present invention uses highly stable lattice structure materials as active substances, and there is no solid electrolyte film generated during the operation of the battery, which can meet the technical requirements of long-term float charging. The present invention also provides a capacity grading method and the application of the high safety sodium ion battery, and the A-class battery selected by the capacity grading method can be used as an energy storage module in a backup power system.

Figure 1