

ALUMINUM CATHODE SECONDARY BATTERY

ABSTRACT

An aluminum cathode secondary battery provided with at least one cathode material and at least one anode material arranged at
5 predetermined spacings and encased in a container filled with an electrolyte, wherein the electrolyte is an ionic liquid containing aluminum salts. Each of the cathode materials contains metallic aluminum, and each of the anode materials contains at least carbon material or quinone compounds. Each of the cathode materials and each of the
10 anode materials are first connected to an external positive and a negative charge, respectively, enabling aluminum ions released from each of the cathode materials to migrate into the anode materials through the electrolyte, whereby a charging reaction occurs. After completing charging, aluminum ions are released from the anode
15 materials and return to the cathode materials through the electrolyte, whereby a discharging reaction occurs. Accordingly, migration of the aluminum ions between the cathode and anode materials is used to achieve a repeated charging/discharging effect, which meets the demands for energy conservation and carbon reduction, decrease in
20 pollution, and environmentally friendly green energy.