US006403256B1

(12) **United States Patent**
Gan et al.

(10) **Patent No.: US 6,403,256 B1**
(45) **Date of Patent: *Jun. 11, 2002**

(54) **ALKALI METAL ELECTROCHEMICAL CELL ACTIVATED WITH A NONAQUEOUS ELECTROLYTE HAVING A SULFITE ADDITIVE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/490,356**

(22) Filed: **Jan. 24, 2000**

Related U.S. Application Data

(60) Provisional application No. 60/117,105, filed on Jan. 25, 1999.

(51) **Int. Cl.**[7] **H01M 4/60**

(52) **U.S. Cl.** **429/215**; 429/218.1; 429/219; 429/220; 429/231.5; 429/231.95; 429/322; 429/328; 429/330; 429/332; 429/333; 429/338; 429/347

(58) **Field of Search** 429/215, 231.95, 429/345, 330, 338, 322, 218.1, 231.5, 219, 220, 347, 328, 332, 333

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(57) **ABSTRACT**

An alkali metal, solid cathode, nonaqueous electrochemical cell capable of delivering high current pulses, rapidly recovering its open circuit voltage and having high current capacity, is described. The stated benefits are realized by the addition of at least one organic sulfite additive to an electrolyte comprising an alkali metal salt dissolved in a mixture of a low viscosity solvent and a high permittivity solvent. A preferred solvent mixture includes propylene carbonate, dimethoxyethane and a sulfite additive having at least one unsaturated hydrocarbon containing a $C(sp^2$ or $sp^3)$—$C(sp^3)$ bond unit having the $C(sp^3)$ carbon directly connected to the —OSO_2— functional group.

36 Claims, 2 Drawing Sheets