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(19) **United States**(12) **Patent Application Publication**  
**BOUAZZA**(10) **Pub. No.: US 2024/0213499 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **PRIMARY ALKALI METAL CELLS WITH GEMINAL DINITRILE ADDITIVES***H01M 4/40* (2006.01)*H01M 4/505* (2006.01)(71) Applicant: **LITRONIK Batterietechnologie GmbH, Pirna (DE)**(52) **U.S. CL.**CPC ..... *H01M 6/168* (2013.01); *H01M 4/405* (2013.01); *H01M 4/505* (2013.01); *H01M 2004/027* (2013.01); *H01M 2004/028* (2013.01)(72) Inventor: **Sofiane BOUAZZA, Pirna (DE)**(73) Assignee: **LITRONIK Batterietechnologie GmbH, Pirna (DE)**

(57)

**ABSTRACT**

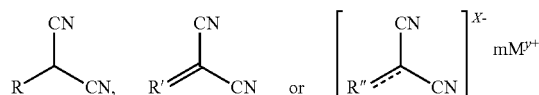
The invention belongs to a primary cell. Said primary cell contains at least one anode, with an alkali metal as active anode material, at least one cathode with an active cathode material and an electrolyte. Additionally the electrolyte comprises at least one additive whereby it is in accordance with the inventive idea that the at least one additive is a nonionic or ionic compound having at least one geminal dinitrile moiety and is selected from the group consisting of aliphatic heterocycles, compounds of the formula

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wherein  $\text{M}^{y+}$  denotes a counterion with a valence of y, and wherein R, R' and R'' are substituents with an aliphatic or aliphatic heterocyclic backbone.

