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(19) **United States**(12) **Patent Application Publication**
JANG et al.(10) **Pub. No.: US 2023/0231192 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **LIQUID ELECTROLYTE FOR
LITHIUM-SULFUR SECONDARY BATTERY
AND LITHIUM-SULFUR SECONDARY
BATTERY COMPRISING SAME**(71) Applicant: **LG ENERGY SOLUTION, LTD.,**
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ABSTRACT

The present disclosure relates to an electrolyte solution for a lithium-sulfur secondary battery and a lithium-sulfur secondary battery comprising the same, more particularly to an electrolyte solution for a lithium-sulfur secondary battery containing a lithium salt and a non-aqueous solvent, wherein the non-aqueous solvent comprises an ether-based solvent and a nonsolvent, the ether-based solvent comprises a linear ether and a cyclic ether, and the nonsolvent comprises a compound having a specific structure.