



US 20240213492A1

(19) **United States**

(12) **Patent Application Publication**
JIN et al.

(10) **Pub. No.: US 2024/0213492 A1**

(43) **Pub. Date: Jun. 27, 2024**

(54) **COPPER FOIL HAVING IMPROVED FLEXIBILITY, ELECTRODE COMPRISING THE SAME, SECONDARY BATTERY COMPRISING THE SAME, AND METHOD FOR MANUFACTURING THE SAME**

(52) **U.S. Cl.**
CPC **H01M 4/661** (2013.01); **H01M 4/667** (2013.01); **H01M 4/75** (2013.01); **H01M 2004/027** (2013.01)

(71) Applicant: **SK NEXILIS CO., LTD.**, Jeongeup-si Jeollabuk-do (KR)

(57) **ABSTRACT**

(72) Inventors: **Shan Hua JIN**, Jeongeup-si Jeollabuk-do (KR); **Min Seok YOON**, Jeongeup-si Jeollabuk-do (KR)

(21) Appl. No.: **18/543,710**

(22) Filed: **Dec. 18, 2023**

(30) **Foreign Application Priority Data**

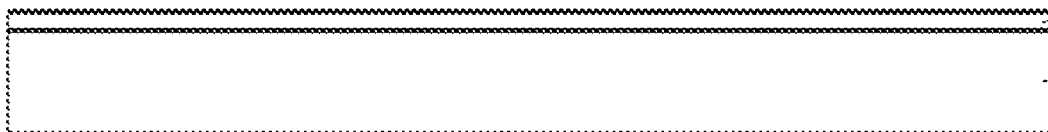
Dec. 22, 2022 (KR) 10-2022-0181692
Oct. 5, 2023 (KR) 10-2023-0132911

Publication Classification

(51) **Int. Cl.**
H01M 4/66 (2006.01)
H01M 4/75 (2006.01)

According to one embodiment of the present disclosure, there is provided a copper foil including a copper film including 99.9 wt % or more of copper, wherein the copper foil has a room temperature MIT 1 of 280 or more, a high-temperature MIT 1 of 130 or more, a room temperature MIT 2 of 14 or more, and a high-temperature MIT 2 of 25 or more. The room temperature MIT 1 refers to an MIT number when a bending radius (R) is 0.38 mm at room temperature, the high-temperature MIT 1 refers to an MIT number when a bending radius (R) is 0.38 mm after heat treatment at 190° C. for one hour, the room temperature MIT 2 refers to an MIT number when a bending radius (R) is 0.1 mm at room temperature, and the high-temperature MIT 2 refers to an MIT number when a bending radius (R) is 0.1 mm after heat treatment at 190° C. for one hour.

110



112

111