CIC energiGUNE
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

cicenergigune.com
Parque Tecnológico
C/Albert Einstein, 48
01510 Vitoria-Gasteiz
(Álava) SPAIN
+34 945 29 71 08

COMPOSITE CATHODE MATERIAL COMPRISING CERAMIC OXIDE ELECTROLYTE, LITHIUM ELECTRODE MATERIAL AND ENHANCING AGENT

PATENT NUMBER: WO2024002990A1

INVENTORS: Florencia Marchini (Umicore), Travis Thompson (Umicore) Sona Valiyaveettil (CIC energiGUNE), Montserrat Casas-Cabanas (CIC energiGUNE), Frederic Aguesse (CIC energiGUNE)

The authors of the present invention have found that the addition of lithium halide to a composite cathode with selected electrolyte and cathode materials strongly enhances the electrochemical performance (in particular the cycling performance) even without sintering the composite cathode material. It was further found that the addition of lithium halide to the selected electrolyte and cathode materials allows co-sintering of these materials at extremely low temperatures, surprisingly resulting in a sintered composite cathode material with limited degradation of composite cathode materials. Or in other words, the thermal stability of the composite cathode material is increased thereby reaching temperatures for sintering without decomposition of the composite cathode material. It was furthermore found that the enhanced electrochemical performance provided by the lithium halide addition is present even after sintering.

ADDED VALUE

- ✓ Improved electrochemical performance; specially the cycling performance.
- ✓ It is possible to carry out a co-sintering of the composite cathode materials at low temperatures.
- ✓ Improvement of the thermal stability of the composite cathode materials.

APPLICATION OF THE TECHNOLOGY

- ✓ Solid-state batteries

LICENSING CONTACT

Business Development Manager
businessdev@cicenergigune.com
T: +34 945 297108