

## 전이금속 치환 및 합성방법에 따른 Li-Mn 산화물의 충방전 특성

지미정, 최병현, 이대진

요업기술원 전자소재팀

### Properties of charge/discharge in synthesis method or substituting transition element for Li-Mn Oxide

Mi-Jung Jee, Byung-Hyun Choi and Dae-Jin Lee

KICET

**Abstract :** There has been rapid progress in the portable electronics industry, which has led to a great increase for a demand of portable, lightweight power sources. Lithium 2<sup>nd</sup> batteries have met these demand, and many studies on the cathode materials for the lithium 2<sup>nd</sup> batteries have been reported during the last decade. Possible candidates for the cathode materials for lithium 2<sup>nd</sup> batteries are LiCoO<sub>2</sub>, LiNiO<sub>2</sub>, and LiMn<sub>2</sub>O<sub>4</sub>. Currently LiCoO<sub>2</sub> is widely used, but LiMn<sub>2</sub>O<sub>4</sub> is an excellent alternative material in view of its several advantages such a low cost as well as the easy availability of raw materials and environmental benignity.

In this study, find the most suitable synthesis method that satisfied high capacitor and stability cycle character, etc in Li-Mn oxide for 2<sup>nd</sup> batteries. And also made an experiment on doping the LiMn<sub>2</sub>O<sub>4</sub> spinel with a small amount of metal ions has a remarkable effect on the electrochemical properties and characteristics of powder, BET, PSA, Porosity, etc

**Key Words :** 2<sup>nd</sup> battery, charge/discharge capacitance