

Li-Mn계 산화물의 치환 및 첨가에 따른 물성 변화

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Properties Changing depends on Substituents or Dopants of Li-Mn oxide material

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Abstract : Spinel structured LiMn_2O_4 is more economic and environmental friendly to be used as commercial active material for secondary battery compared to Co-oxide material active material, but spinel structure of LiMn_2O_4 is unstable and its capacitance decreases with increase of cycle. Therefore, the purpose of our study is to improve the stability of LiMn_2O_4 spinel structure and increase its capacitance by using substituents or dopants. LiMn_2O_4 powder was synthesized by changing substituents or dopants mole fractions, and temperatures. Crystal state, structure and specific surface area of the synthesized powder were measured and also characterized electrochemically by measuring its impedance, charge-discharge capacitance and etc.

Key Words : LiMn_2O_4 , Fe_2O_3 , Nb_2O_5 , Sb_2O_3 , Capacity, Cycle Voltammetry