

Mixed conductivity and lithium diffusion in poly(ethylene oxide) molybdenum disulfide nanocomposites

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The electrical conductivity, the lithium diffusion, and the diffusion activation thermodynamics of the nanocomposites arising from the co-intercalation of lithium and poly(ethylene oxide) in molybdenum disulfide, $\text{Li}_{0.1}\text{MoS}_2(\text{PEO})_{0.5}$ and $\text{Li}_{0.1}\text{MoS}_2(\text{PEO})_{1.0}$, are analyzed and compared with those of pure MoS_2 . According to qualitative galvanostatic relaxation experiments, the products are mixed ionic and electronic conductors with a ratio σ_e/σ_i of about 103. © 1998 Published by Elsevier Science Ltd. All rights reserved.