

Microwave activated lithium intercalation in transition metal sulfides

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The reaction rates for the intercalation of lithium in molybdenum and titanium sulfide activated by microwave irradiation at room temperature and atmospheric pressure leading to products of relatively high crystallinity are about two orders of magnitude higher than those by conventional thermal methods. Nevertheless, microwave irradiation of titanium sulfide samples produces appreciable decomposition. A similar effect is observed for the intercalation of some organic and organometallic species in LiMoS_2 . Acceleration observed for microwave assisted lithium intercalation reactions appears to be related with mechanistic changes which facilitate a first stage intercalation. © 1997 Elsevier Science Ltd.