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Pb₂Sr₂(Y_{1-x}Ca_x)Cu₃O_{8+δ} 계 화합물의 상평형과 제조 공정
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Abstract

Processings of the Pb₂Sr₂(Y_{1-x}Ca_x)Cu₃O_{8+δ} (2213) system for x=0.4-0.6 to control deleterious oxidative decomposition have been studied. Our results show that compounds are stable at both low pO₂ and high pO₂ if they are suitably oxidized. Various oxidation and deoxidation procedures have been investigated in order to determine the optimum hole concentration in the CuO₂ layers for the maximum T_c. In cases x=0.5 and x=0.6, the optimum hole concentration in the 2213-phase is achieved, but with accelerated oxidative decomposition. Despite this, the maximum T_c ~80-83 K for the 2213-phase can be deduced when x=0.5 to 0.6.