

IONIC CONDUCTIVITY STUDIES OF AN ALUMINATE PHASE,
SUPPORTED ON A SYNTHETIC ANIONIC CLAY

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A hydrotalcite type anionic clay material has been synthesised and its ionic conductivity has been studied, in the 23-400°C temperature range. Indirect experimental evidence show that the material is a sodium-ion conductor with ionic conductivity of $0.3 \text{ (ohm cm)}^{-1}$ at 300°C, and negligible electronic conductivity. Room temperature ionic conductivity, however, is $7.5 \times 10^{-8} \text{ (ohm cm)}^{-1}$. Addition of 10 wt% of $\text{Na}_2 \text{CO}_3$ appears to enhance the conductivity at lower temperatures. The conductivity appears to be due to an aluminate phase, associated with the clay material.