

Modified lithium borohydride for mobile hydrogen storage

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20322858&lokasi=lokal>

Abstrak

Influences of fluorine containing compounds TiF_4 and ZrF_4 on hydrogen sorption properties of $LiBH_4$ have been investigated. Thermovolumetric measurements, titration, and XRD technique were used to characterize the samples. The results demonstrated a pronounced beneficial effect of both ZrF_4 and TiF_4 on the sorption properties of modified $LiBH_4$. After hydrogenation at $400^\circ C$ and 80 bar, formation of modified $LiBH_4$ was observed as a consequence of F dissolution in LiH ($LiH_{1-z}F_z$). Adding TiF_4 and ZrF_4 to $LiBH_4$ has been found to modify both thermodynamic and kinetic properties.