

Modified lithium borohydride for mobile hydrogen storage

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920534382&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°C and 80 bar, formation of modified LiBH_4 was observed as a consequence of F dissolution in LiH ($\text{LiH}_{1-z}\text{F}_z$). Adding TiF_4 and ZrF_4 to LiBH_4 has been found to modify both thermodynamic and kinetic properties.