

## Modified lithium borohydride for mobile hydrogen storage

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

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### Abstrak

Influences of fluorine containing compounds  $\text{TiF}_4$  and  $\text{ZrF}_4$  on hydrogen sorption properties of  $\text{LiBH}_4$  have been investigated. Thermovolumetric measurements, titration, and XRD technique were used to characterize the samples. The results demonstrated a pronounced beneficial effect of both  $\text{ZrF}_4$  and  $\text{TiF}_4$  on the sorption properties of modified  $\text{LiBH}_4$ . After hydrogenation at  $400^\circ\text{C}$  and 80 bar, formation of modified  $\text{LiBH}_4$  was observed as a consequence of F dissolution in LiH ( $\text{LiH}_{1-z}\text{F}_z$ ). Adding  $\text{TiF}_4$  and  $\text{ZrF}_4$  to  $\text{LiBH}_4$  has been found to modify both thermodynamic and kinetic properties.