

## 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  $TiF_4$  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.