

Synthesis and Characterization of ammonia borane (NH_3BH_3) as a chemical hydrogen storage material

김창수, 이현주, 안병성*
한국과학기술연구원
(bsahn@kist.re.kr*)

Ammonia-borane (NH_3BH_3) as a high hydrogen content material (19.5wt% H) was synthesized and characterized with various preparation methods. Depending on synthesis methods, the product ratio between NH_3BH_3 and DADB(ionic compound of NH_3BH_3) has been changed. Possible synthetic mechanism was suggested which explain the formation of two products. Crystal structures were analyzed with XRD and SEM. Hydrogen release amount and kinetics of synthesized and commercial products were compared by a volumetric method.