[1]舒远杰,丁小勇,陈智群,等.包覆硼氢化锂的表面结构表征及稳定性研究[J].火炸药学报,2015,38(2):30-34.[doi:10.14077/j.issn.1007-7812.2015.02.006]

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包覆硼氢化锂的表面结构表征及稳定性研究

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Title: **Study on Surface Structural Characterization and Stability of Coated Lithium Borohydride**

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关键词: 分析化学; 硼氢化锂; 包覆; 溶剂蒸发法; 吸湿性; 结构表征; 稳定性

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摘要: 为抑制硼氢化锂(LiBH4)的吸湿性，提高其贮存和使用稳定性，用石蜡和聚碳酸酯通过溶剂蒸发法对其表面进行包覆，用X射线光电子能谱、漫反射红外光谱、拉曼光谱和扫描电镜研究了包覆LiBH4的表面结构，考察了其在空气中的稳定性。结果表明，LiBH4表面形成了致均匀的包覆层，表面包覆度可达82%；在空气中放置1h后包覆缺陷处可被反应产物有效覆盖，阻碍了进一步反应，使LiBH4的相对稳定度提高了50.7%。

Abstract: To restrain the hygroscopicity of lithium borohydride and improve its stability during storage and application, olefin and polyester carbonate were used to coat on the surface of lithium borohydride by solvent evaporation method. The surface structure of coated lithium borohydride was studied by X-photoelectron energy spectra, diffuse reflection infrared spectra, roman spectra and scanning electron microscope, and its stability in the air was examined.The results show that the uniform coating layer is formed on the surface of coated lithium borohydride and the covered degree reaches to 82%. The defective surface can be effectively covered by the reaction product after exposed in the air for one hour to hinder the further reaction and make the relative stability degree increase by 50.7%.

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备注/Memo: -
