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trans-1,4,5,8-tetranitro-1,4,5,8-tetraazadacalin (TNAD) with some propellant components evaluated by DSC method[J]. *Chinese Journal of Energetic Materials (Hanneng Cailiao)*, 2008, 16(3): 309-314.

Thermal Behavior of Tetraethylammonium Dodecahydrododecaborates (BHN) and Its Compatibility with Main Components of Propellant

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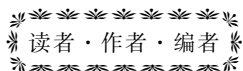
Abstract: The thermal behaviors of tetraethylammonium dodecahydrododecaborates (BHN) were investigated by DSC and TG-DTG techniques. The compatibilities of BHN with 2,4,6,8,10,12-hexanitro-2,4,6,8,10,12-hexanitrohexaazaisowurtzitan (CL-20), 3,4-dinitrofurazanfuroxan (DNF), N-guanylurea-dianitramide (FOX-12), cyclotetramethylenetetranitroamine (HMX), glycidyl azide polymer (GAP), cyclotrimethylenetrinitramine (RDX), ammonium perchlorate (AP), lead 3-nitro-1,2,4-triazol-5-onate (NTO-Pb), hydroxyl terminated polybutadiene (HTPB), di-2-ethylhexyl sebacate (DOS), 2,4-toluene diisocyanate (TDI), isophorone diisocyanate (IPDI), cupric adipate (AD-Cu), Al powder and Mg powder were examined by DSC method as well as vacuum stability test. The results indicate that there is one main exothermic decomposition stage for BHN sample, the peak temperature is 305.8 °C. The compatibilities of BHN with CL-20, HMX, GAP, RDX, AP, NTO-Pb, HTPB, DOS, IPDI, AD-Cu, Al powder and Mg powder are fair. These materials mentioned above can be used as components in preparation of propellants and explosives, whereas, the compatibility of TDI with BHN is bad.

Key words: analytical chemistry; tetraethylammonium dodecahydrododecaborates (BHN); DSC; TG-DTG; compatibility

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“研究快报”征稿启事

为了更好更快地报道含能材料领域的最新成果和进展,为本领域的研究者赢得在科学共同体中的学术优先权,《含能材料》编辑部鼓励广大研究者提供“研究快报”稿件。

研究快报应简要报道含能材料领域的前沿性、创新性研究成果。编辑部鼓励研究者发表新思想、新观点、新原理和新发现,支持报道阶段性的重要研究成果的简要情况。凡被本刊以快报形式刊登的研究成果,编辑部按照国际学术惯例,允许作者以完整的研究论文的形式发表在其他国内外刊物上。

研究快报的来稿要求与投本刊的研究论文基本一致。作者投稿时需要对文章的学术价值和创新性进行简要说明。来稿要求关键数据齐备,结论明确,背景、方法和过程的介绍从简。来稿需有中英文摘要、关键词、作者简介、基金项目等信息。全文篇幅在2页(约4000字)以内。

本刊对研究快报将即审即发,以提高时效性。对有基金支持的英文稿件择优录用。

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