

## Review on Energetic Eutectic

CHEN Ling, SHU Yuan-jie, XU Rui-juan, XU Tao, WANG Xin-feng

(Institute of Chemical Materials, CAEP, Mianyang 621900, China)

**Abstract:** The use of 2,4,6-trinitrotoluene (TNT) as liquid carrier in traditional melt cast explosives limited their application in high performance weapons for the requirement of the insensitive ammunition. Replacement of TNT by low melt point explosive and intermolecular eutectic mixtures was attempted. This review summarized and compared the previous researches of low melt point explosives and ethylenediamine dinitrate/ammonium nitrate (EA), ethylenediamine dinitrate/ammonium nitrate/potassium nitrate (EAK), nitroguanidine/ethylenediamine dinitrate/ammonium nitrate/potassium nitrate (NEAK) and methyl nitroguanidine (MeNQ)-based intermolecular eutectic mixtures, and it reveals that theory investigation of the formulation is the direction for future development.

**Key words:** physical chemistry; melt-cast explosive; eutectic; TNT replacement

**CLC number:** Tj55; O64

**Document code:** A

**DOI:** 10.3969/j.issn.1006-9941.2013.01.023



## 特别策划——《计算含能材料研究》专栏征稿

含能材料的计算研究受到国内外科研工作者的广泛关注。为此,《含能材料》将于2013年10月第5期组织出版“特别策划——《计算含能材料研究》专栏”。内容涉及含能材料的相关计算研究。以原创性研究论文为主,少量研究综述及研究快报。

稿件截稿日期为2013年7月31日。

来稿时请在“拟投栏目”中选择“计算含能材料研究”。

欢迎来稿!

《含能材料》编辑部