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LI Dan,WANG Jing-yu,JIANG Xia-bing,et al.Ultra fine RDX Coated with Stearic Acid and Its Impact Sensitivity[J].,2009,(1):40-43.

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硬脂酸包覆超细RDX及其撞击感度

《火炸药学报》[ISSN:1007-7812/CN:61-1310/TJ] 卷: 期数: 2009年第1期 页码: 40-43 栏目: 出版日期: 2009-02-28

Title: Ultra fine RDX Coated with Stearic Acid and Its Impact Sensitivity

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关键词: 物理化学; 超细黑索今; 硬脂酸; 钝感添加剂; 撞击感度

Keywords: physical chemistry; ultra fine RDX; stearic acid; insensitive additive; impact sensitivity

分类号: TJ55;O62

DOI: -

文献标志码: A

摘要: 为改善超细RDX的性能，采用硬脂酸（SA）为钝感添加剂，获得了以超细RDX为基的钝感混合炸药。通过测试接触角、计算表面能验证其包覆可行性，SA能够包覆UFRDX。用扫描电镜对包覆后的样品进行表征验证，并测试了SA包覆后的超细RDX的撞击感度。结果表明，其表面形貌得到明显改善，SA可降低其撞击感度，说明钝感剂SA的加入是降低炸药撞击感度的有效方法。

Abstract: In order to improve the property of ultra fine RDX, high explosive formulation with low sensitivity is obtained based on ultra fine RDX and stearic acid(SA) as insensitive additive. Ultra fine RDX can be coated by SA, which is proved through testing contact angle and caculating surface energies. The morphology of RDX coated by SA was characterized with scaning electron microscope,showing that the morphology was obviously improved. The testing result of impact sensitivity for ultra fine RDX coated by SA can decrease its impact sensitivity, indicating that adding the insensitive binder SA in ultra fine RDX is an effective approach of decreasing the sensitivity of high explosives.

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更新日期/Last Update: 2010-01-26