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Title: New Technology for Synthesis of 1 Methyl 2,4,5 trinitroimidazoles

作者: 王小军; 曹端林; 李永祥; 宋磊; 王建龙
中北大学化工与环境学院, 山西太原030051

Author(s): WANG Xiao jun; CAO Duan lin; LI Yong xiang; SONG Lei; WANG Jian long

College of Chemical Engineering and Environment, North University of China, Taiyuan 030051, China

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摘要: 以N 甲基咪唑为原料,经过两步硝化反应得到1 甲基 2,4,5 三硝基咪唑(MTNI),并用红外光谱、核磁共振、元素分析对其结构进行了表征。研究了发烟硝酸与发烟硫酸的体积比、加料顺序、反应时间、温度对1 甲基 2,4 二硝基咪唑(2,4 MDNI)和MTNI收率的影响。结果表明,当一段硝化采用正加法加料,发烟硝酸与发烟硫酸的体积比1:2,二段硝化采用反加法加料,发烟硝酸与发烟硫酸的体积比1:4,反应时间2h,反应温度110~115℃时,产物得率较高。

Abstract: 1 Methyl 2,4,5 trinitroimidazoles(MTNI) was synthesized with 1 methylimidazole as initial material by two steps nitrification reaction. Its structure was characterized by IR, ¹H NMR and elemental analysis. The effect of the drip order, ratios of volume for nitric and sulfuric acid, reaction time, temperature on the yield of 2,4 dinitroimidazole (2,4 MDNI) and MTNI was investigated. The results show that the conditions of good yields are: the drip order of additive of the first step, ratios of volume for nitric and sulfuric acid 1 : 2, the drip order of anti additive for the second step, ratios volume for nitric and sulfuric acid 1 : 4, reaction time 2h, temperature 110~115℃.

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备注/Memo: 收稿日期: 2008 11 14; 修回日期: 2009 03 01 作者简介: 王小军(1982-), 硕士研究生, 从事含能材料与精细有机合成研究。