

论文

阳离子型高分子絮凝剂P(DMDAAC-AM)的分散聚合制备初探

司晓慧,岳钦艳*,高宝玉,王晓娜,魏锦程,卢磊

山东大学环境科学与工程学院, 山东 济南 250100

摘要:

采用分散聚合法,在乙醇-水体系中制备了二甲基二烯丙基氯化铵(dimethyl diallyl ammonium chloride, DMDAAC)和丙烯酰胺(acrylamide, AM)的共聚物P(DMDAAC-AM)。研究了醇水质量比、单体质量分数、单体的物质的量比、引发剂用量、引发温度、EDTA等因素对聚合物的转化率和特性黏度的影响。使用红外光谱仪和透射电镜对产品的结构和形貌进行了表征。结果表明:以聚乙烯吡咯烷酮(PVP)为分散剂,用量为单体总质量的4%;在醇水质量比为1:1、单体质量分数为40%、DMDAAC与AM物质的量比为2:8、过硫酸钾为引发剂(其用量为体系总质量的0.04%)引发温度为40℃的条件下,得到特性黏度为94.77(cm³ / g)、易分离提纯、溶解迅速的产品。

关键词: 分散聚合 聚二甲基二烯丙基氯化铵-丙烯酰胺 转化率 特性黏度

Synthesis of P(DMDAAC-AM) as cationic polymeric flocculants by dispersion polymerization

SI Xiao-hui, YUE Qin-yan*, GAO Bao-yu, WANG Xiao-na, WEI Jin-cheng, LU Lei

School of Environmental Science and Engineering, Shandong University, Jinan 250100, Shandong, China

Abstract:

Dispersion polymerization of DMDAAC (dimethyl diallyl ammonium chloride) and AM (acrylamide) in an alcohol water media was studied. The effect of the following six factors were mainly studied: the mass ratio of alcohol to water, monomer content, the inolar ratio of AM to DMDAAC, the initiator dosage, initiation temperature and EDTA on the intrinsic viscosity and conversion efficiency of copolymerization. The structure and surface shape of the polymers were studied by means of IR and transmission electron microscope (TEM). The result shows that the product with intrinsic viscosity as 94.77(cm³ / g) was obtained under the following optimized conditions: m(alcohol):m(water)=1:1, monomer content= 40%, n(DMDAAC):n(AM)=2:8, the mass fraction of initiator K₂S₂O₈=0.04%, initiation temperature=40℃ and the mass fraction of stabilizer PVP is 4% of the monomer.

Keywords: dispersion polymerization P(DMDAAC-AM) conversion efficiency intrinsic viscosity

收稿日期 1900-01-01 修回日期 1900-01-01 网络版发布日期 2006-10-24

DOI:

基金项目:

通讯作者: 司晓慧

作者简介:

本刊中的类似文章

扩展功能

本文信息

Supporting info

PDF(480KB)

[HTML全文](OKB)

参考文献[PDF]

参考文献

服务与反馈

把本文推荐给朋友

加入我的书架

加入引用管理器

引用本文

Email Alert

文章反馈

浏览反馈信息

本文关键词相关文章

▶ 分散聚合

▶ 聚二甲基二烯丙基氯化铵-丙烯酰胺

▶ 转化率

▶ 特性黏度

本文作者相关文章

▶ 司晓慧

▶ 岳钦艳*

▶ 高宝玉

▶ 王晓娜

▶ 魏锦程

▶ 卢磊