

研究简报

## 聚丙烯酰胺凹凸棒土(Attapulgite)纳米复合高吸水性树脂的制备与性能

张俊平, 陈浩, 王爱勤

中国科学院兰州化学物理研究所; 中国科学院兰州化学物理研究所 兰州730000中国科学院研究生院北京; 兰州730000中国科学院研究生院北京

收稿日期 2005-1-31 修回日期 2005-3-24 网络版发布日期 接受日期

摘要

关键词 [凹凸棒土](#) [复合高吸水性树脂](#) [有机化](#) [吸水倍率](#)

分类号

### PREPARATION AND PROPERTIES OF POLYACRYLAMIDE/ATTAPULGITE SUPERABSORBENT NANOCOMPOSITES

ZHANG Junping<sup>1,2</sup>, CHEN Hao<sup>1</sup>, WANG Aiqin<sup>1</sup>

1 Lanzhou Institute of Chemical Physics; Chinese Academy of Sciences; Lanzhou 730000; 2 Graduate School of the Chinese Academy of Sciences; Beijing 100049

**Abstract** Organo-attapulgite was obtained by modifying attapulgite with hexadecyltrimethyl ammonium bromide. A new organo-attapulgite based superabsorbent composite was prepared by polymerization of organo-attapulgite dispersed acrylamide, using *N,N'*-methylenebisacrylamide as a crosslinker and ammonium persulfate as an initiator. The structure, morphology, thermal stability of organo-attapulgite and the composite were characterized by FTIR, XRD, SEM, TEM and TGA, respectively. The results indicated that a nanocomposite was successfully obtained after incorporating organo-attapulgite into the polyacrylamide network. The thermal stability and water absorbency of the nanocomposite were improved greatly after the organification of attapulgite. Water absorbencies for the nanocomposite incorporated with 10 wt% HDTMA-APT in distilled water and in a 0.9 wt% NaCl solution were 2803  $\text{g g}^{-1}$  and 121  $\text{g g}^{-1}$ , respectively.

**Key words** [Attapulgite](#) [Superabsorbent composite](#) [Organification](#) [Water absorbency](#)

DOI:

通讯作者 王爱勤

#### 扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(955KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [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](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“凹凸棒土”的相关文章](#)

▶ [本文作者相关文章](#)

· [张俊平](#)

· [陈浩](#)

· [王爱勤](#)