

分离工程

酸改性膨润土对 [BMIM] Cl 离子液体的吸附

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摘要

利用酸改性膨润土对低浓度 [BMIM] Cl 离子液体水溶液的吸附性能进行研究;考察了吸附温度、吸附时间、溶液 pH 值等吸附条件对离子液体的吸附率的影响。结果表明;酸改性膨润土对 [BMIM] Cl 的阳离子具有良好的吸附作用。在中性溶液中;酸改性膨润土对离子液体具有最大的吸附率。酸改性膨润土对离子液体的吸附过程是放热过程且属于 Langmuir 等温吸附;同时;得到膨润土上离子液体吸附的 Langmuir 等温方程且相关系数大于 0.99。

关键词

[离子液体](#) [吸附](#) [酸改性膨润土](#) [\[BMIM\] Cl](#)

分类号

Adsorption of [BMIM] Cl ionic liquid by acid-modified bentonite

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Abstract

Acid-modified bentonite was used for the adsorption of low concentration [BMIM] Cl ionic liquid solution. The effect of adsorption temperature; adsorption time and pH value of ionic liquid solution on the adsorption properties was investigated. Experimental results showed that acid-modified bentonite had good adsorption properties for the cation of [BMIM] Cl ionic liquid. In the neutral solution; acid-modified bentonite had the maximum adsorption capacity for [BMIM] Cl. The adsorption process of [BMIM] Cl by acid-modified bentonite was exothermic and belonged to the Langmuir isothermal adsorption. At the same time; the Langmuir isothermal adsorption equation was obtained and the correlation coefficient was larger than 0.99.

Key words

[ionic liquid](#) [adsorption](#) [acid-modified bentonite](#) [\[BMIM\] Cl](#)

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