

عنوان مقاله:

Synthesis and antimicrobial action of Ag-Zeolite A

محل انتشار:

سومین کنفرانس بین المللی نوآوری و تحقیق در علوم مهندسی (سال: 1398)

تعداد صفحات اصل مقاله: 4

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خلاصه مقاله:

The present work involves the synthesis, characterization, and antimicrobial activity of silver-ion-exchanged zeolite A (Ag-zeolite A). The synthesized material properties were studied using SEM and EDX. The particle size distribution was also analyzed. The antimicrobial activity was examined against the Gram-negative Escherichia coli. The antimicrobial tests showed that the pure zeolite A has no inhibitory effect. However, silver loaded zeolite A had excellent antimicrobial properties. The results also indicated that the higher silver concentration, the more antimicrobial efficacy was achieved. The detected antimicrobial properties were generated by the silver present in the zeolite structure, while the zeolite framework was only responsible for the sustained release of the silver ions. Consequently, this material would impede microbial growth on surfaces and hence reduce infection risk. This makes Ag-zeolite A a good choice for combination with various materials in order to manufacture medical devices, surfaces, textiles, or household items where antimicrobial properties are beneficial and necessary.

کلمات کلیدی:

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