

Preparation and modification of activated carbon fibres by microwave heating

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Abstract

Thermal treatment of activated carbon fibres (ACF) has been carried out using a microwave device, instead of a conventional furnace. The results show that microwave treatment affects the porosity of the ACFs, causing a reduction in micropore volume and micropore size. More importantly, the results also show that microwave treatment is a very effective method for modifying the surface chemistry of the ACFs with the production of pyrone groups, detected by FTIR. As a result very basic carbons, with points of zero charge approximately equal to 11, are readily obtained.

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