HIGHLY MICROPOROUS ACTIVATED CARBON FROM AN SPANISH ANTHRACITE WITH HOMOGENEOUS PORE SIZE DISTRIBUTION

PATENTED TECHNOLOGY

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ABSTRACT

The Department of Inorganic Chemistry of the University of Alicante has developed technology and process to prepare activated carbons with a homogeneous micropore size distribution.

Interestingly, the chemical activation by KOH of the Spanish anthracite produces an activated carbon with a very homogeneous micropore size distribution (almost exclusively microporosity of size between 0.7-0.9 nm. and BET surface areas close to 2000 m2/g.

TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

INNOVATIVE ASPECTS:

- Materials of low cost and high carbon content as lignocellulosic materials, coal and carbon fibres can be used as precursors for the production of activated carbons.
- Different pore size distribution depends on the coal rank and the activation process.
- Very interesting properties are obtained by chemical activation of Spanish anthracite.

MARKET APPLICATIONS

The characteristics of the activated carbon from Spanish anthracite have shown to be of relevance for several important technological applications like:

- Gas storage (CH4)
- Gas separation (O2/N2, CO2/CH4)
- Gas phase adsorption (elimination of odours, flavours, organic impurities from drinking and waste water, some toxic chemicals, purification of air)

COLLABORATION SOUGHT

The partners sought are industries with interest in activated carbons. The Department of Inorganic Chemistry is interested in:

- Transfer its knowledge and know-how to the industry
- Apply its expertise in the develop of industrial pilot plants and technology in the areas of preparation
- Realise characterisations and applications in gas separation, gas storage and gas adsorption