

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

**P** 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 m<sup>2</sup>/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 (CH<sub>4</sub>)
- Gas separation (O<sub>2</sub>/N<sub>2</sub>, CO<sub>2</sub>/CH<sub>4</sub>)
- 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

