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To Wash or Not to Wash: That's the Question

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The preparation of activated carbons (AC) from lignocellulosic precursors by the so-called physical activation involves several very well known steps, such as, preparation of the precursor (when needed), carbonization under inert atmosphere and activation with an activating gas (carbon dioxide, steam,...). If chemical activation is used the general procedure involves the impregnation of the precursor with the activating agent (H_3PO_4, KOH, NaOH,...), the pyrolysis under an inert atmosphere and a final washing step to remove the excess of the chemical used as activating agent. When the last method is used the final washing step is unquestionable needed and always executed. However, when physical activation is used one question arises in our mind: Should the final activated carbon be washed with water? Does it make any difference?

In this work we report the effect of washing the samples after activation in order to ring some light into this question.

The ACs were characterised by adsorption of N_2 at 77K , FTIR , Elemental analysis of carbon, hydrogen, sulphur and nitrogen and point of zero charge.

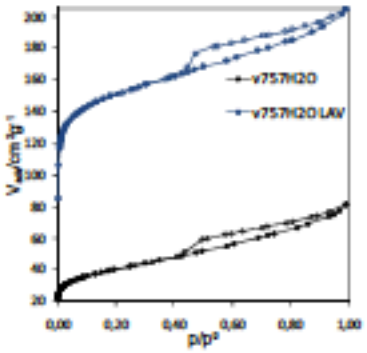

Figure 1 – Representative adsorption isotherms before (v757H2O) and after (V757H2OLAV) washing the sample (vineshoot, steam

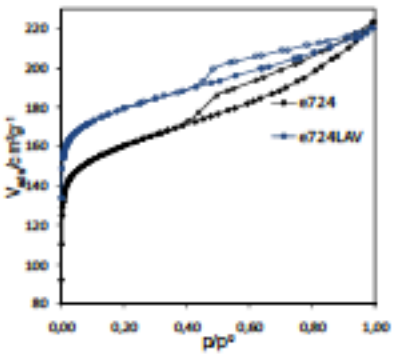

Figure 1 – Representative adsorption isotherms before (e724) and after (e724LAV) washing the sample (esparto grass, CO_2 activation)

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