

# **OBTAINING OF FURFURAL FROM HARDWOOD RESIDUES, KEEPING LIGNOCELLULOSE FOR PRODUCTION OF ACTIVATED CARBON**

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Woodworking industry residues often do not find proper utilisation and are heaping up or used as a fuel at best. One of the feasibilities of the appropriate use of this out-of-demand but yet valuable raw material is to produce furfural, acetic acid and activated carbon. Since such a unified processing scheme is almost unexplored, our intention was to study the main parameters of the process.

Birch wood veneer shorts were chosen as a starting raw material. It contained 72.2% polysaccharides, including 29.9% of easy-hydrolysable polysaccharides; the potential fufural yield was 15.3% on the o.d. wood basis. Therefore, the impact of the catalyst (concentrated sulphuric acid) was studied to elucidate the optimum conditions to ensure a high yield of furfural and lignocellulose with appropriate properties for obtaining of the activated carbon. Changing the amount of the catalyst, the furfural and lignocellulose yields varied from 6.3 to 8.9% and from 70.9 to 60.3% on the o.d. wood basis, respectively.

Furfural and acetic acid are obtained by catalytic prehydrolysis of hardwood residues; 2/3 of the left-over lignocellulose is used as a fuel in a boiler house and the rest 1/3 as a raw material for carbon production.

The novel technology of processing fine-grained hardwood residues is environmentally friendly and energetically self-sufficient.