

Pembuatan karbon aktif dari tongkol jagung serta aplikasinya untuk adsorpsi Cu, Pb dan amonia

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Abstrak

Karbon aktif dibuat dari tongkol jagung melalui karbonisasi dilanjutkan aktivasi menggunakan KOH. Karbon aktif tongkol jagung dikarakterisasi menggunakan metode BET, FTIR, adsorpsi metilen biru dan iodium untuk mengetahui luas permukaan, gugus fungsi serta penyerapan molekul besar dan kecil. Karbon aktif tongkol jagung diaplikasikan untuk adsorpsi Cu, Pb dan amonia. Adsorpsi paling optimum saat aplikasi dimiliki : karbon aktif tongkol jagung berukuran 0,06 mm dengan persentase penyisihan 52,99 % pada adsorpsi Cu; karbon aktif tongkol jagung berukuran 0,06 mm dengan persentase penyisihan 49,04 % saat adsorpsi Pb; dan karbon aktif tongkol jagung berukuran 0,5 mm dengan kapasitas adsorpsi 2,08 gr/gr saat adsorpsi uap amonia.

.....Activated carbon made from corn cob through carbonization followed by activation using KOH. Corn cob activated carbon through characterization using BET, FTIR, methilen blue and iodium adsorption method in order to obtain surface area, functional group, and adsorption of big and small molecuel. Corn cob activated carbon used for applied for Cu, Pb and ammonia adsorption. Optimum adsorption when application was obtained by using : corn cob activated carbon which have a measurement of 0,06 mm with elimination percentage 52,99 % at Cu adsorption; corn cob activated carbon which have a measurement of 0,06 mm with elimination percentage 49,04 % at Pb adsorption; dan corn cob activated carbon which have a measurement of 0,5 mm with adsorption capacity 2,08 gr/gr at ammonia adsorption.